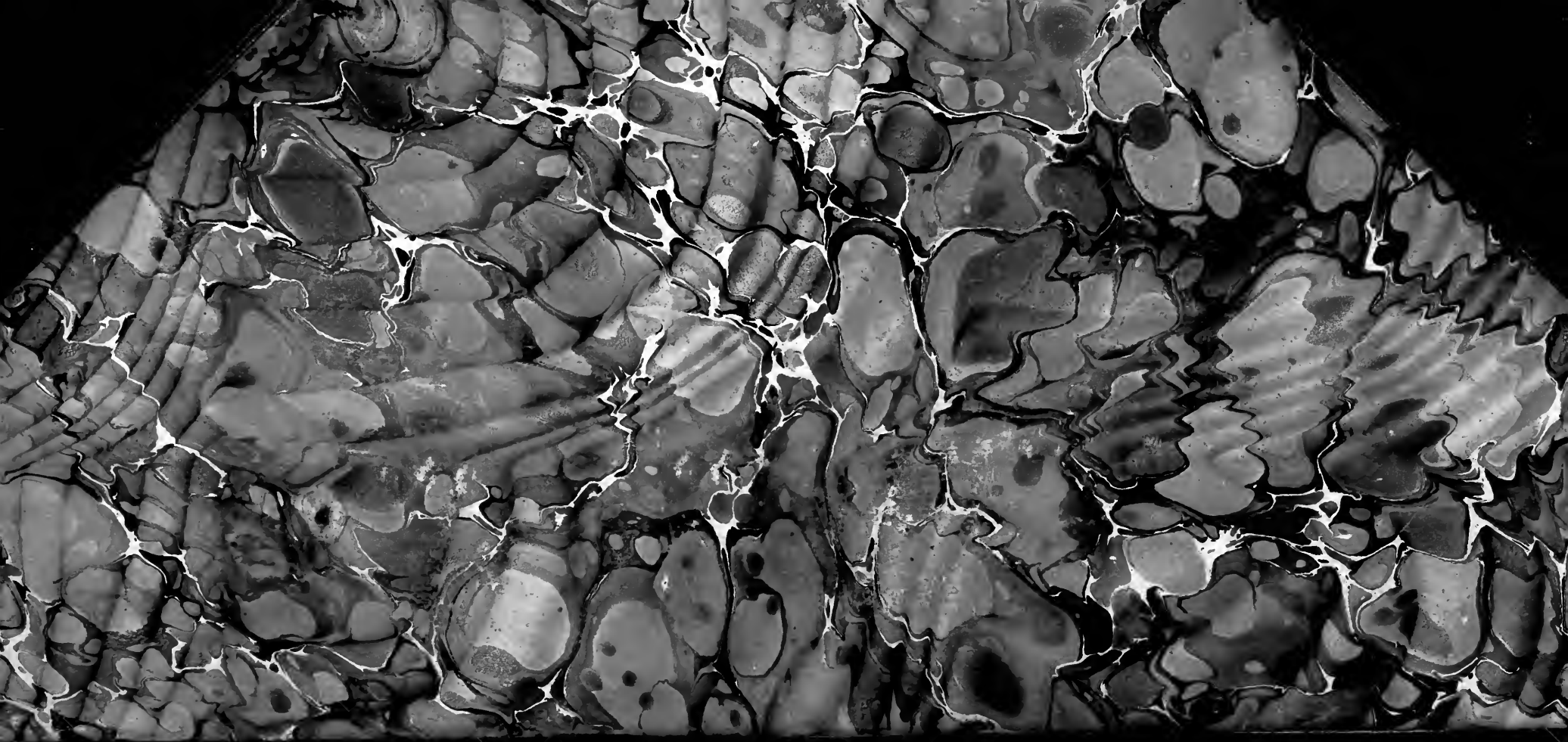

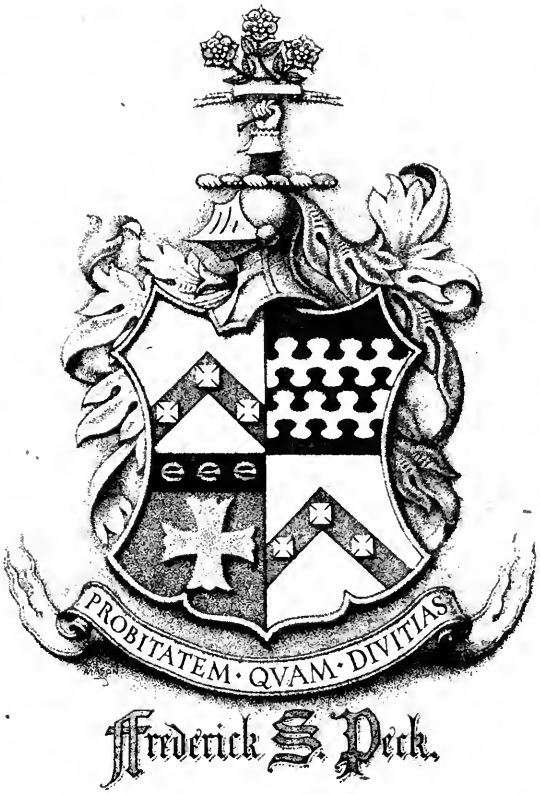

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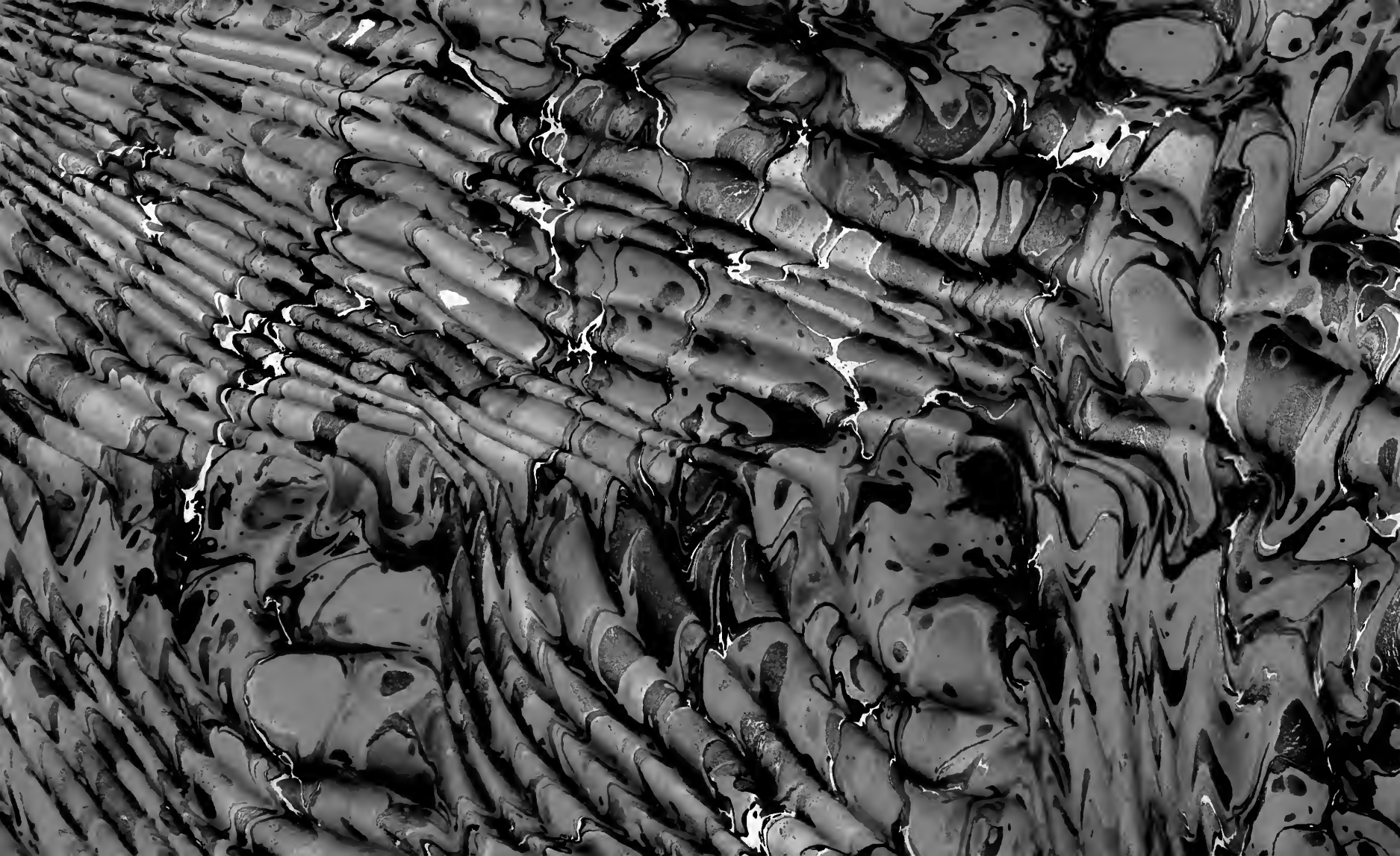

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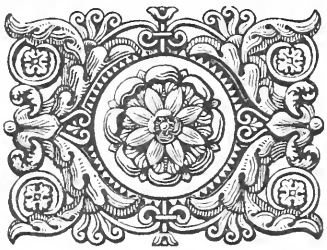

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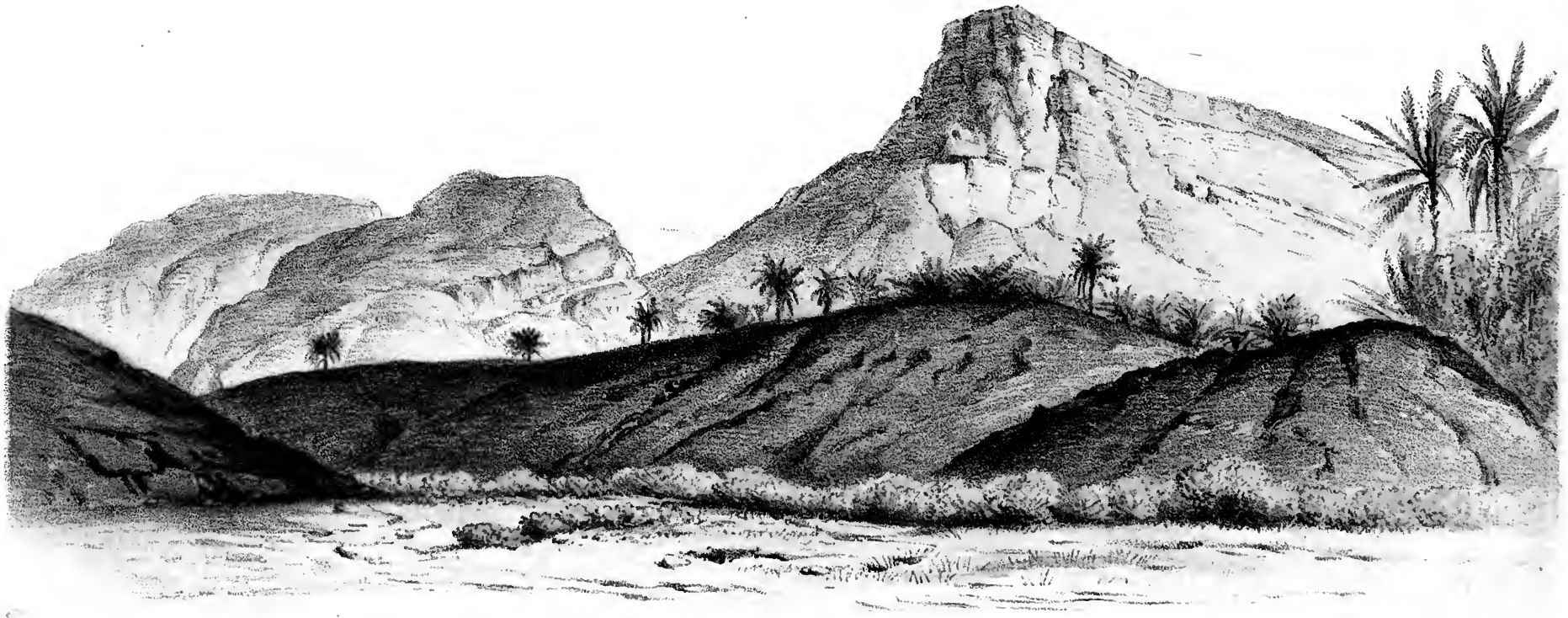

THOS KELL, LITH. 40, King St, COVENT GARDEN

ONE OF THE SHIGDAWAYN.

(WHERE HAJI WALI FOUND THE GOLD)

THE LAND OF MIDIAN

(REVISITED).

BY

RICHARD F. BURTON.

WITH MAP, AND ILLUSTRATIONS ON WOOD AND BY CHROMO-LITHOGRAPHY.

IN TWO VOLUMES.

VOL. I.

LONDON:
C. KEGAN PAUL & CO., 1, PATERNOSTER SQUARE.
1879.

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UPB

To the Memory of

MY MUCH LOVED NIECE,

MARIA EMILY HARRIET STISTED,

WHO DIED AT DOVERCOURT,

NOVEMBER 12, 1878.

"Gold shall be found, and found
In a land that's not now known."

MOTHER SHIPTON, A.D. 1448.

PREFACE.

A FEW pages by way of "Forespeache."

The plain unvarnished tale of the travel in Midian, undertaken by the second Expedition, which, like the first, owes all to the liberality and the foresight of his Highness Ismail I., Khediv of Egypt, forms the subject of these volumes. During the four months between December 19, 1877, and April 20, 1878, the officers employed covered some 2500 miles by sea and land, of which 600, not including by-paths, were mapped and planned; and we brought back details of an old-new land which the civilized world had clean forgotten.

The public will now understand that one and the same subject has not given rise to two books. I have to acknowledge with gratitude the many able and kindly notices by the Press of my first volume ("The Gold Mines of Midian," etc. Messrs. C. Kegan Paul & Co., 1878). But some reviewers succeeded in completely misunderstanding the drift

of that *avant courier*. It was an introduction intended to serve as a base for the present more extensive work, and—foundations intended to bear weight must be solid. Its object was to place before the reader the broad outlines of a country whose name was known to "every schoolboy," whilst it was a *vox et præterea nihil*, even to the learned, before the spring of 1877. I had judged advisable to sketch, with the able assistance of learned friends, its history and geography; its ethnology and archæology; its zoology and malacology; its botany and geology. The drift was to prepare those who take an interest in Arabia generally, and especially in wild mysterious Midian, for the present work, which, one foresaw, would be a tale of discovery and adventure. Thus readers of "The Land of Midian (Revisited)" may feel that they are not standing upon ground utterly unknown; and the second publication is shortened and lightened—perhaps the greatest advantage of all—by the prolegomena having been presented in the first.

The purpose of the last Expedition was to conclude the labours begun, during the spring of 1877, in a mining country unknown, or rather, fallen into oblivion. Hence its primary "objective" was mineralogical. The twenty-five tons of specimens, brought back to Cairo, were inspected by good

judges from South Africa, Australia, and California ; and all recognized familiar metalliferous rocks. The collection enabled me to distribute the mining industry into two great branches—(1) the rich silicates and carbonates of copper smelted by the Ancients in North Midian ; and (2) the auriferous veins worked, but not worked out, by comparatively modern races in South Midian, the region lying below the parallel of El-Muwaylah. It is, indeed, still my conviction that "tailings" have been washed for gold, even by men still living. We also brought notices and specimens of three several deposits of sulphur ; of a turquoise-mine behind Zibá ; of salt and saltpetre, and of vast deposits of gypsum. These are sources of wealth which the nineteenth century is not likely to leave wasted and unworked.

In geography the principal novelties are the identification of certain ruined cities mentioned by Ptolemy, and the "Harrahs" or plutonic centres scattered over the seaboard and the interior. I venture to solicit the attention of experts for my notes on El-Harrah, that great volcanic chain whose fair proportions have been so much mutilated by its only explorer, the late Dr. Wallin. Beginning with Damascan Trachonitis, and situated, in the parallel of north lat. 28°, about sixty direct miles east of the Red Sea, it is reported to subtend the whole coast

of North-Western Arabia, between El-Muwaylah (north lat. 27° 39′) and El-Yambú' (north lat. 24° 5′). Equally noticeable are the items of information concerning the Wady Hamz, the "Land's End" of Egypt, and the most important feature of its kind in North-Western Arabia. Its name, wrongly given by Wallin, is unknown to the Hydrographic Chart, and to the erudite pages of my friend Professor Aloys Sprenger, who, however, suspects with me that it may be the mouth of the celebrated Wady el-Kurá. For further topographical details the reader is referred to the "Itineraries" of the Expedition, offered to the Royal Geographical Society of London.

Some of the principal sites were astronomically determined by Commanders Ahmed Musallam and Násir Ahmed, of the Egyptian navy. The task of mapping and planning was committed to the two young Staff-lieutenants sent for that purpose. They worked well in the field; and their sketches were carefully executed whilst under my superintendence. But it was different when they returned to Cairo. The maps sent to the little *Exposition* at the Hippodrome (see conclusion) were simply a disgrace to the Staff-bureau. My departure from Egypt caused delay; and, when the chart reached me, it was far from satisfactory: names had been omitted, and without my presence it could not have been printed.

With the able assistance of Mr. William J. Turner, of the Royal Geographical Society, who found the work harder than he expected, it has been reduced to tolerable shape. Still, it is purely provisional; and, when mining operations shall begin, a far more careful survey will be required.

As regards archæology, the second Expedition visited, described, and surveyed eighteen ruins of cities and towns, some of considerable extent, in North Midian, besides seeing or hearing of some twenty large *Mashghal*, apparently the *ateliers* of vagrant Gypsy-like gangs. This total of thirty-eight is not far short of the forty traditional Midianite settlements preserved by the mediæval Arab geographers. Many others are reported to exist in the central or inland region; and fifteen were added by the South Country, including the classical temple or shrine, found upon the bank of the Wady Hamz before mentioned. The most interesting sites were recommended to M. Lacaze, whose portfolio was soon filled with about two hundred illustrations, in oil and water-colours, pencil *croquis*, and "sun-pictures." All, except the six coloured illustrations which adorn this volume, have been left in Egypt. His Highness resolved to embody the results of our joint labours in a large album, illustrated with coloured lithographs, maps, and plans, explained by letter-press, and prepared at the Citadel, Cairo.

The Meteorological Journal was kept by myself, assisted at times by Mr. Clarke. Mr. David Duguid, engineer of the *Mukhbir*, whose gallant conduct will be recorded (Chap. VIII.), and Commander Násir Ahmed, of the *Sinnár*, obliged me by registering simultaneous observations at sea-level. The whole was reduced to shape by Mr. W. J. Turner, of the Royal Geographical Society.

My private collection of mineralogical specimens was deposited with Professor M. H. N. Story-Maskelyne. The spirit-specimens of zoology filled three large canisters: and the British Museum also received a hare and five birds (Mr. R. B. Sharpe); four bats (*Rhinopoma*) and a mouse; six reptiles, five fishes, thirty-five crustaceans, and about the same number of insects; five scorpions, six leeches, sixty molluscs, four echinoderms, and three sponges. Dr. A. Günther (Appendix III.) determined and named two new species of reptiles. Mr. Frederick Smith (Appendix III.) took charge of the insects. Mr. Edward J. Miers, F.L.S., etc., described the small collection of crustaceæ (*Annals and Magazine of Natural History* for November, 1878). Finally, Mr. Edgar A. Smith examined and named the shells collected on the shores of the 'Akabah Gulf and the north-eastern recess of the Red Sea.

The main interest of the little *hortus siccus* was the Alpine Flora, gathered at an altitude of five

thousand feet above sea-level. The plants were offered to Sir Joseph Dalton Hooker, of Kew; and Professor D. Oliver, of the Herbarium, has kindly furnished me with a list of the names (Appendix IV.). Mr. William Carruthers and his staff also examined the spirit-specimens of fleshy plants (Appendix IV.).

Mr. Reginald Stuart Poole, Keeper of Coins and Medals, and Mr. Barclay V. Head were good enough to compare with their rich collections the coins of ancient Midian found (Chap. III.), for the first time, at Magháir Shu'ayb.* Some years ago, Mr. Robert Ready, of the British Museum, had bought from a Jew, Yusuf Kalafát (?), a miscellaneous collection, which included about sixty of the so-called Midianitic coins. But the place of discovery is wholly unknown. The Assistant Keeper read a paper "On Arabian Imitations of Athenian Coins," Midianitic, Himyaritic, and others, at a meeting of the Numismatic Society (November 21, 1878); and I did the same at the Royal Asiatic Society, December 16, 1878. The little "find" of stone implements, rude and worked; and the instruments illustrating the mining industry of the country, appeared before

* My collection dates from between the first century B.C. and the first century A.D.; this can be gathered from comparison with the coins of Alexander Jannæus and his successor, Alexander II. The tetradrachm may belong to the reign of Alexander the Great, or the ages preceding it.

the Anthropological Section of the British Association, which met at Dublin (August, 1878), and again before the Anthropological Institute of London, December 10, 1878.

Finally, the skulls and fragments of skulls from Midian were submitted to Professor Richard Owen, the Superintendent of Natural History; and my learned friend kindly inspected the Egyptian and Palmyrene crania which accompanied them. The whole was carefully described by Dr. C. Carter Blake, Ph.D., before the last-named *séance* of the Anthropological Institute (December 10, 1878).

The tons of specimens brought to Cairo were, I have said, publicly exhibited there, and created much interest. But the discovery of a mining-country, some three hundred miles long, once immensely wealthy, and ready to become wealthy once more, is not likely to be accepted by every one. Jealous and obstructive officials "did not think much of it." Rivals opposed it with even less ceremony. A mild "ring" in Egypt attempted in vain to run the Hámámát and Dár-For mines (Chap. III.) against Midian. Consequently the local Press was dosed with rumours, which, retailed by the home papers, made the latter rife in contradictory reports. To quote one case only. The turquoise-gangue from Zibá (Chap. XII.) was pronounced, by the inexpert mineralogists at the Citadel, Cairo, who

attempted criticism, to be carbonate of copper, because rich silicates of that metal were shown at the *Exposition.* No one seemed to know that the fine turquoises of Midian have been sold for years at Suez, and even at Cairo.

There was, indeed, much to criticise in the collection, which had been made with a marvellous carelessness. But we must not be hard upon M. Marie. He is an engineer, utterly ignorant of mineralogy and of assaying: he was told off to do the duty, and he did it as well as he could—in other words, very badly. He neglected to search for alluvial gold in the sands. Every Wady which cuts, at right angles, the metalliferous maritime chains, should have been carefully prospected; these sandy and quartzose beds are natural conduits and sluice-boxes. But the search for "tailings" is completely different from that of gold-veins, and requires especial practice. The process, indeed, may be called purely empirical. It is not taught in Jermyn Street, nor by the *École des Mines.* In this matter theory must bow to "rule of thumb:" the caprices of alluvium are various and curious enough to baffle every attempt at scientific induction. Thus the "habits" of the metal, so to speak, must be studied by experiment with patient labour; the most accomplished mineralogist may pass over rich alluvium without recognizing its presence, where

the rude prospector of California and Australia will find an abundance of stream-gold. Evidently the proportion of "tailings" must carefully be laid down before companies are justified in undertaking the expensive operation of quartz-crushing. Hence M. Tiburce Morisot, a practical digger from South Africa, introduced at Cairo by his compatriot, M. Marie, to my friend M. Yacoub Artin Bey, found a fair opportunity of proposing to his Highness the Khediv (October, 1878) a third Expedition in search of sand-gold. The Viceroy, however, true to his undertaking, refused to sanction any "interloping."

The highly distinguished M. Ferdinand de Lesseps, when *en route* to Paris, kindly took charge of some cases of specimens for analysis. But the poorest stuff had been supplied to him by M. Marie; and the results, of which I never heard, were probably *nil*. The samples brought to England, by order of his Highness the Khediv, were carefully assayed. The largest collection was submitted to Dr. John Percy, F.R.S. Smaller items were sent to the well-known houses, Messrs. Johnston and Matthey, of Hatton Garden, and Messrs. Edgar Jackson and Co., Associates of the Royal School of Mines (fourteen samples). Finally, special observations were made by Mr. John L. Jenken, of Carrington, through Mr. J. H. Murchison, of "British

Lead Mines," etc., etc., etc.; by Lieut.-Colonel Ross, the distinguished author of "Pyrology;" and by Lieut.-Colonel Bolton, who kindly compared the rocks with those in his cabinet. M. Gastinel-Bey's analysis of the specimens brought home by the first Expedition will be found at the end of Chap. VIII.

The following is the text of Dr. Percy's report :—

Metallurgical Laboratory, Royal School of Mines,
Jermyn Street, London, Dec. 13, 1878.

DEAR SIR,

I now send the results of the analytical examination of the specimens which you submitted to me for that purpose. The examination has been conducted with the greatest care, in the metallurgical laboratory of the Royal School of Mines, by Mr. Richard Smith, who, for the last thirty years, has been constantly engaged in such work; and in whose accuracy I have absolute confidence. It is impossible that any one should have taken greater interest in, or have devoted himself with greater earnestness to, the investigation. I have almost entirely confined myself to a statement of facts, as I understand that was all you required for the guidance of his Highness the Khedive.

Section I.

Examination of the mineral specimens contained in the boxes marked as under.

(An average representative sample of each specimen, of about six pounds in weight, was prepared for examination from portions broken off, or otherwise taken, by Mr. Richard Smith at the Victoria Docks.*)

No. 1. "Box 22," *Quartz from Mugnah* (Makná). Quartz coloured black and red-brown with oxides of iron. These were of two varieties, marked 22*a* and 22*b* respectively.

---

* Here probably disappeared some fine specimens of silicate of copper, which caused a delay of three months in the report.—R. F. B.

No. 2. The magnetic ironstone (*22a*) was examined and found to contain of—

Peroxide of iron (per cent.)	...	...	85·29
Protoxide ,, ,,	...	...	9·83
Silica (quartz) ,,	...	...	3·28

The oxides of iron together contain of metallic iron 66·8 per cent.

No. 3. The micaceous ironstone (*22b*) was examined and found to contain of—

Peroxide of iron (per cent.)	...	...	...	...	...	91·0
Silica	...	...	...	...	...	5·52

The peroxide of iron contains of metallic iron 63·7 per cent.

No. 4. "Box No. 14," *Quartz from Mugnah*, gave no results.

No. 5. "Box No. 27," *Iron from Mugnah*, proved to be hæmatite (which is magnetic), with some red-brown oxide of iron and quartz. It was found to contain of—

Peroxide of iron (per cent.)	...	...	75·46
Protoxide ,, ,,	...	...	4·69

The oxides of iron together contain of metallic iron 56·4 per cent.

No. 6. "Box No. 7," *Conglomerate from Mugnah*, yielded no results.

No. 7. "Box No. 25," *Quartz from Mugnah.* This quartz, veined and coloured black and red-brown with oxides of iron, was assayed with the following results :—

Gold and Silver	...	...	...	None.*

Nos. 8 and 9. "Boxes Nos. 50 and 37," † *Quartz and red dust from Mugnah*, yielded no results.

No. 10. "Box No. 37*a*," *Sulphur from Mugnah.* Lumps of sulphur, crystallized and massive, irregularly distributed through a white, dull, porous rock. The latter was examined and found to be hydrated sulphate of lime (gypsum), with a small quantity of magnesia ; some of the lumps of rock were coloured with oxides of iron, and others intermixed with sand.

Nos. 11. and 12. "Boxes Nos. 3 and 6," *Black quartz and white quartz from the Jebel el-Abyaz*, gave no results except a small portion of copper pyrites in a lump of quartz (Box No. 6).

No. 13. "Box No. 47," *Quartz from El-Wedge* (Wijh), gave only oxide of iron. ‡

No. 14. "Box No. 5," *Red quartz from El-Wedge*, a quartz with red-brown oxide of iron and earthy substances, was assayed with the following results :—

Gold (per statute ton = 3240 lbs.)	...	2 dwts.	15 grs.
Silver	...	Traces.	

No. 15. "Box No. 16," *Mica schist from El-Wedge.* This mica-schist undergoing decomposition from weathering action, mixed with small lumps of quartz, was assayed with the following results :—

Gold (per statute ton)	... ...	...	6 grains.
Silver	...	...	Traces.

---

* Messrs. Edgar Jackson found in the same box :—

Silver (per statute ton)	...	...	2 oz. 17 dwts.	11 grs.

† "Box No. 37" yielded silver ... ... 13 dwts. 1·6 grs.

‡ "Box. No. 47" ,, ... 12 ,, ,,

No. 16. "Box No. 32," *White quartz from El-Wedge.* This quartz coloured with red-brown oxide of iron, mixed with mica-schist, was assayed with the following results :—

Gold (per statute ton)	3 dwts. 22 grs.
Silver	Traces.

No. 17. "Box No. 48,"* *Red sulphur from Sharm Yáhárr*, was found to have the following composition, while it was free from "native sulphur" :—

Peroxide of iron (per cent.)	44·36
Sand, clay, carbonates and sulphates of lime and magnesia	14·90
Salts soluble in water, chiefly alkaline chlorides and chlorites, and sulphates of lime and magnesia	29·70
Water	11·40
	100·00

No. 18. "Box No. 48*a*," *Gypsum from Sharm Yáhárr.* Partly semi-transparent and granular, and partly dull white and opaque. It was found to be hydrated sulphate of lime, or gypsum, with carbonate of lime, and some sand, magnesia, and chloride of sodium.

No. 19. "Box No. 35," *Dust and stones from Sharmá*, yielded no results.

Section 2.

Examination of the mineral specimens contained in a box sent from Egypt. As the specimens were unlabelled, they were marked A, B, C, D, E, F, G, H, and I, respectively.

No. 21. A. "Copper ore." A fair average specimen was prepared for examination from the several lumps of ore and marked *a.*

a. It was submitted to analysis, and found to contain carbonates of lime and magnesia ; silica, alumina, and oxides of iron ; and of—

Copper (metallic) ... ... 5·72 per cent.

b. A portion of the copper mineral, from which the rock or vein-stuff had been detached as far as practicable, was found to consist of impure hydrated silicate of copper (bluish-green chrysocolla) and carbonate of copper. It was assayed and found to contain of—

Copper (metallic) ... ... 23·14 per cent.

No. 22. "B." A lump of soft, ochrey red-brown ironstone, coated with a thin layer of greyish white substance. A fair average sample, inclusive of this external layer, was prepared for examination, and was found to consist of—

Peroxide of iron (per cent.)	81·14
Water	11·50
Silica	3·07
Sulphuric acid, lime, magnesia, alumina ...	4·29
	100·00

The peroxide of iron contains 56·8 per cent. of metallic iron. The greyish white substance was found to consist of silica, alumina, sulphate of lime, and a little oxide of iron and magnesia.

---

* In boxes Nos. 48 and 51 Mr. Jenken found silver 2 oz. 13 dwts. 8 grs. ; and 4 oz. 5 dwts. 12 grs.

No. 23. "C." Lump of red ironstone associated with sand and earthy substances, containing

Peroxide of iron (per cent.)	68·09
Water ,, ,, ...	1·93
Silica and sand	18·17
Lime, magnesia (in small quantity), alumina, carbonic acid, sulphuric acid (traces)	11·81
	100·00

The peroxide of iron contains 47·66 of metallic iron.

No. 24. "D." Lump of white quartz said to contain visible gold. I did not observe any, but found a few minute specks of pyrites, and partially resembling mica.

No. 25. Lump of quartz associated with red-brown oxide of iron. It yielded no results.

No. 26. Lump of rock in which the "turquoise" occurs. There was a thin layer of greenish blue turquoise mineral on one surface, and minute seams of a similar substance throughout the specimen.

a. The layer of turquoise mineral, from which the rock or vein-stuff had been detached as far as practicable, was found to contain phosphoric acid, alumina, oxide of copper, oxide of iron, and water; which occur in turquoise.

b. After the layer *a* had been separated, a fair average sample of the rock was found to contain 1·69 per cent. of metallic copper. It was also assayed and found to be free from silver * and gold.

No. 27. "G." A variety of jasper, having a somewhat polished, and irregular and deeply indented surface, the result of sand-action. The fractured surface was red, with patches of yellow. It was found to consist chiefly of silica, coloured with oxides of iron.

No. 28. "H." Lump of "sard," of a pale-red flesh colour. A variety of chalcedony. It was found to consist almost entirely of silica.†

No. 29. "I." Lumps of pure ironstone.

A small lump of metal,‡ supposed to contain antimony § and platinum, was brought for examination by Captain R. F. Burton. It was submitted to analysis, and found to be iron and combined carbon, or white cast-iron, containing small quantities of lead, copper, and silver, and free from antimony, platinum, and gold. It is evidently the product of a fusion operation. A few "shots" of lead were attached to the surface of the metal. ‖

---

* In a fragment of similar "turquoise rock," from the same site (*Zibá*), Dr. L. Karl Moser, of Trieste, found silver.

† In a fragment of similar chalcedony, from the same site (Abá'l-Marú), Dr. Moser found specks of "free gold."

‡ This was the "splendid button" smelted at Makná.

§ The "button" was pronounced to be almost pure antimony in the Government Establishment of Mines, Trieste.

‖ In "box No. 4" Messrs. Jackson found rough crystals of corundum; and a qualitative analysis of this sample and "box No. 7" yielded quartz, carbonate of lime, alumina, and oxide of iron.

Dr. Percy concludes the assays in these words :—

Three of the specimens (Nos. 14, 15, and 19) from the same locality contain gold. The amount of gold, however, is small. I consider these indications of the presence of the precious metal not altogether unsatisfactory ; and certainly to justify further exploration. My conviction is, that the ancients were adepts in the art of extracting gold, and that, owing to the small value of human labour, they could get out as much of the metal as could now be done. They knew perfectly what was worth working and what was not ; and *I think it likely that what you have brought home, had been rejected by the ancients as unworkable.** Further search may lead to the discovery of workable stuff; but would doubtless require a good deal of time, unless lucky accident should intervene.

The specimens Nos. 2, 3, 5, 22, and 23 contain sufficient iron to render them available as iron ores, provided they occur in large quantity. The copper present in No. 21*a* is too small in amount to render it available as a source of that metal.† If it is practicable on a large scale, by hand-labour or other means, to separate the "copper mineral" (as in *b*), it would be sufficiently rich in copper, provided the cost of the transit were not too great.

The specimen No. 17 is only of scientific interest, as it gives off an acid vapour when heated; and this substance may have been used by the ancients in the separation of silver from gold by the process termed "cementation."

I remain, dear Sir, yours very truly,

(Signed) JOHN PERCY, M.D., F.R.S.

Lecturer on Metallurgy at the Royal School of Mines, London.

Capt. R. F. Burton, etc.

Upon this able report I would offer the following

* The italics are mine. Mr. Mathey remarks of the specimen containing 48 grains of gold per ton, "It would be worthless in its present condition; if, however, it could be enriched by proper washing and dressing, and the cost in labour, etc., be not too great, it might be made to give fair returns."

† Analyses of copper ore from Midian at the Citadel, Cairo, gave in certain cases forty per cent.

observations. We, who have travelled through a country like Midian, finding everywhere extensive works for metallurgy; barrages and aqueducts, cisterns and tanks; furnaces, fire-bricks, and scoriæ; open mines, and huge scatters of spalled quartz, with the remains of some eighteen cities and towns which apparently fell to ruin with the industry that founded and fed them;—we, I say, cannot but form a different and a far higher idea of its mineral capabilities than those who determine them by the simple inspection of a few specimens. The learned Dr. Percy at once hits the mark when he surmises that worthless samples were brought home; and this would necessarily occur when no metallurgist, no practical prospector, was present with the Expedition. As will appear from the following pages, all the specimens were collected *à ciel ouvert*, and wholly without judgment.

I therefore expect that future exploration will develop Midian as it has done India. The quartzose outcrop called the "Wynaad reef" (Madras Presidency) produced only a few poor pennyweights per ton, two and seven being the extremes, while much of it was practically unproductive. Presently, in February, 1878, the district was visited by Sir Andrew Clarke, of Australian experience, member of the Viceregal Council. He invited Mr. Brough Smyth, of Victoria, to explore and test

the capabilities of the country; and that eminent practical engineer discovered, in an area of twenty-five by thirteen miles, ninety outcrops, some yielding, they say, two hundred ounces per ton of gold, fine and coarse, "with jagged pieces as large as peas." And British India now hopes to draw her gold coinage from Wynaad.

I conclude this abstract of the book, which would have been reduced in size had the mass of matter permitted, with the heartfelt hope that the grand old Land of Midian will not be without attraction to the public of Europe.

RICHARD F. BURTON.

Athenæum Club,
December 16.

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PART I.

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THE LAND OF MIDIAN

REVISITED.

CHAPTER I.

PRELIMINARY—FROM TRIESTE TO MIDIAN.

THROUGHOUT the summer of 1877 I was haunted by memories of mysterious Midian. The Golden Region appeared to me in the glow of primæval prosperity described by the Egyptian hieroglyphs; as rich in agriculture and in fertility, according to the old Hellenic travellers, as in its Centres of civilization, and in the precious metals catalogued by the Sacred Books of the Hebrews. Again I saw the mining works of the Greek, the Roman, and the Nabathæan, whose names are preserved by Ptolemy; the forty cities, mere ghosts and shadows of their former selves, described in the pages of the mediæval Arab geographers; and the ruthless ruin which,

under the dominion of the Bedawin, gradually crept over the Land of Jethro. The tale of her rise and fall forcibly suggested Algeria, that province so opulent and splendid under the Masters of the World; converted into a fiery wilderness by the representatives of the "gentle and gallant" Turk, and brought to life once more by French energy and industry. And such was my vision of a future Midian, whose rich stores of various minerals will restore to her wealth and health, when the two Khedivial Expeditions shall have shown the world what she has been, and what she may be again.

I was invited to resume my exploration during the winter of 1877–78, by the Viceroy of Egypt, Ismail I., a prince whose superior intelligence is ever anxious to develop the resources of his country. His Highness was perhaps the only man in his own dominions who, believing in the buried wealth of Midian, had the perspicacity to note the advantages offered by its exploitation. For the world around the Viceroy pronounced itself decidedly against the project. My venerable friend, Linant Pasha, suggested a comparison with the abandoned diggings of the Upper Nile; forgetting that in at least half of Midian land, only the "tailings" have been washed: whereas in the Bishárí country, and throughout the "Etbaye," between the meridians of Berenike and Sawákin, the very thinnest metallic fibrils

have been shafted and tunnelled to their end in the rock by those marvellous labourers, the old Egyptians. In the Hamámát country, again, the excessive distances, both from the Nile and from the Red Sea, together with the cost of transport, must bar all profit. Even worse are the conditions of Fayzoghlú and Dár-For; whilst the mines of Midian begin literally at the shore.

Another Pasha wrote to me from Alexandria, congratulating me upon having discovered, during our first Expedition, "a little copper and iron." Generally, the official public, knowing that I had brought back stones, not solid masses of gold and silver, loudly deplored the prospective waste of money; and money, after the horse-plague, the low Nile, and the excessive exigencies of the short-sighted creditor, was exceptionally scarce. The truly Oriental view of the question was taken by an official, whom I shall call Árif Pasha—the "Knowing One." When told that M. George Marie, the Government engineer detailed to accompany the first Expedition, had sent in official analyses with sample tubes of gold and silver, thus establishing the presence of auriferous and argentiferous rocks on the Arabian shore, *Son Excellence* exclaimed, "*Imprudent jeune homme*, thus to throw away the chances of life! Had he only declared the whole affair a farce, a flam, a sell, a *canard*, the Viceroy would have held him

to be honest, and would have taken care of his future."

Still, through bad report the Khediv, who had mastered, with his usual accuracy of perception and judgment, the subject of Midian and her Mines, was staunch to his resolve ; and when one of his European financiers, a *Controleur Général de Dépenses*, the normal round peg in the square hole, warned him that there were no public funds for such purpose, his Highness warmly declared, *on dit*, that the costs of the Expedition should be defrayed at his own expense.

Meanwhile I had passed the summer of 1877 in preparation for the work of the ensuing winter. A long correspondence with many learned friends, and a sedulous study of the latest geographers, especially German, taught me all that was known of mining in Arabia generally, and particularly in Midian. During my six months' absence from Egypt my vision was fixed steadily upon one point, the Expedition that was to come ; and when his Highness was pleased to offer me, in an autograph letter full of the kindest expressions, the government of Dár-For, I deferred accepting the honour till Midian had been disposed of.

Unhappily, certain kindly advisers persuaded me to make well better by a visit to Karlsbad, and a course of its alkaline "Fountains of Health." Never

was there a greater mistake! The air is bad as the water is good; the climate is reeking damp, like that of Western Africa; and, as in St. Petersburg, a plaid must be carried during the finest weather. Its effects, rheumatic and neuralgic, may be judged by the fact that the doctors must walk about with pocketed squirts, for the hypodermal injection of opium. Almost all those whom I knew there, wanting to be better, went away worse; and, in my own case, a whole month of Midian sun, and a sharp attack of ague and fever were required to burn out the *Hexenschuss* and to counteract the deleterious effects of the "Hygeian springs."

At last the happy hour for departure struck; and on October 19, 1877, the Austro-Hungarian *Espero* (Capitano Colombo) steamed out of Trieste. On board were Sefer Pasha, our host of Castle Bertoldstein; and my learned friends, the Aulic Councillor Alfred von Kremer, Austrian Commissioner to Egypt, and Dr. Heinrich Brugsch-Bey. The latter gave me a tough piece of work in the shape of his "Ægypten," which will presently be quoted in these pages. It would be vain to repeat a description of the little voyage described in "The Gold-Mines of Midian." The Dalmatian, or first day; the second, or day of Corfu loved and lost; and the third, made memorable by Cephalonia and the glorious *Canale*, all gave fine smooth

weather. But the usual rolling began off still-vexed Cape Matapan. It lasted through the fourth day, or of Candia, this *insula nobilis et amœna*—

"Crete, the crown of all the isles, flower of Levantine waters"

—while the fifth, or Mediterraneo-Alexandrian day, killed two of the seventeen fine horses, *Yuckers* and Anglo-Normans, which Sefer Pasha was conveying to Cairo.

On Thursday morning (October 25), after rolling through the night off the old port Eunostus, which now looks brand-new, we landed, and the next day saw me at Cairo. Such was my haste that I could pay only a flying visit to the broken beer-bottles, the burst provision-tins, the ice-plants, and the hospitable society of Ramleh the Sand-heap; and my many acquaintances had barely time to offer their congratulations upon the prospects of my "becoming an Egyptian."

My presence at the capital was evidently necessary. A manner of association for utilizing the discoveries of the first Expedition had been formed in London by the Messieurs Vignolles, who knew only the scattered and unofficial notices; issued, without my privity, by English and continental journals. Their representative, General Nuthall, formerly of the Madras army, had twice visited Cairo, in August and October, 1877, seeking a con-

cession of the mines, and offering conditions which were perfectly unacceptable. The Viceroy was to allow, contrary to convention, the free importation of all machinery; to supply guards, who were not wanted; and, in fact, to guarantee the safety of the workmen, who were perfectly safe. In return, ten per cent. on net profits, fifteen being the royalty of the Suez Canal, was the magnificent inducement offered to the viceregal *convoitise.* I could not help noting, by no means silently, this noble illustration of the principle embodied in *Sic vos non vobis.* I was to share in the common fate of originators, discoverers, and inventors: the find was mine, the profits were to go—elsewhere. General Nuthall professed inability to regard the matter in that light; while to all others it appeared in no other. However, after a few friendly meetings, the representative left Egypt, with the understanding that possibly we might work together when the exploration should have been completed. His Highness, who had verbally promised me either the concession or four per cent. on gross produce, acted *en prince*, simply remarking that the affair was in my hands, and that he would not interfere with me.

I must not trouble the reader with the tedious tale of the pains and the labour which accompany the accouchement of such an Expedition. All practicals know that to organize a movement of sixty men

is not less troublesome—indeed, rather more so—than if it numbered six hundred or six thousand. The Viceroy had wisely determined that we should not only carry out the work of discovery by tracing the precious metals to their source; but, also, that we should bring back specimens weighing tons enough for assay and analysis, quantitive and qualitive, in London and Paris. Consequently, miners and mining apparatus were wanted, with all the materials for quarrying and blasting: my spirit sighed for dynamite, but experiments at Trieste had shown it to be too dangerous. The party was to consist of an escort numbering twenty-five Súdán soldiers of the Line, negroes liberated some two years ago; a few Ma'danjíyyah ("mine-men"), and thirty Haggárah ("stone-men" or quarrymen).

The Government magazines of Cairo contain everything, but the difficulty is to find where the dispersed articles are stored: there is a something of red-tapeism; but all is plain sailing, compared with what it would be in Europe. The express orders of his Highness Husayn Kámil Pasha, Minister of Finance and Acting Minister of War, at once threw open every door. Had this young prince not taken in the affair a personal interest of the liveliest and most intelligent nature, we might have spent the winter at Cairo. And here I cannot refrain from mentioning, amongst other names, that

of Mr. Alfred E. Garwood, C.E., locomotive superintendent; who, in the short space of four months, has introduced order and efficiency into the chaos known as the Bulák magazines. With his friendly co-operation, and under his vigorous arm, difficulties melted away like hail in a tropical sun. General Stone (Pasha), the Chief of Staff, also rendered me some assistance, by lending the instruments which stood in his own *cabinet de travail.**

Poor Cairo had spent a seedy autumn. The Russo-Turkish campaign, which had been unjustifiably allowed, by foreign Powers, to drain Egypt of her gold and life-blood—some 25,000 men since the beginning of the Servian prelude—not only caused abundant sorrow to the capital, but also frightened

* "Little health" at Cairo prevented my choosing the instruments; and the result was that at last I had to depend upon my pocket-set by Casella. Even this excellent maker's maxima and minima failed to stand the camel-jolting. The barometer, lent by the Chief of Staff (Elliott Brothers, 24), contained amalgam, not mercury. The patent *messrad*, or odometer (Wittmann, Wien), with its works of soft brass instead of steel, was fit only to measure a drawing-room carpet. M. Ebner sold us, at the highest prices, absolutely useless maxima and minima, plus a *baromètre aneroide*, whose chain was unhooked when it left the box. M. Süssmann, of the Muski, supplied, for fifty francs, a good and useful microscope magnifying seventy-five times. The watches from M. Meyer ("Dent and Co.!") were cheap and nasty Swiss articles; but they were also subjected to terrible treatment:—I once saw the wearers opening them with table-knives. Fortunately M. Lacaze, the artist, had a good practical knowledge of instruments; and this did us many a good turn.

off the stranger-host, which habitually supplies the poorer population with sovereigns and napoleons. The horse-pest, a bad typhus, after raging in 1876 and early 1877, had died out: unfortunately, so had the horses; and the well-bred, fine-tempered, and high-spirited little Egyptians were replaced by a mongrel lot, hastily congregated from every breeding ground in Europe. The Fellahs, who had expected great things from the mission of MM. Goschen and Joubert, asked wonderingly if those financiers had died; while a scanty Nile, ten to twelve feet lower, they say, than any known during the last thousand years, added to the troubles of the poor, by throwing some 600,000 feddans (acres) out of gear, and by compelling an exodus from the droughty right to the left bank. Finally, when the river of Egypt did rise, it rose too late, and brought with it a feverish and unwholesome autumn. Briefly, we hardly escaped the horrors of Europe—

> "Herbstesahnung! Triste Spuren
> In den Wäldern, auf den Fluren!
> Regentage, böses Wetter," etc.

Meanwhile, in the Land of the Pharaohs, whose scanty interest about the war was disguised by affected rejoicings at Ottoman successes, the Prophet gallantly took the field, as in the days of Yúsuf bin Ishák. This time the vehicle of revelation was the learned Shayhk (*má?*) Alaysh, who

was ordered in a dream by the Apostle of Allah (upon whom be peace!) to announce the victory of the Moslem over the Infidel; and, as the vision took place in Jemádi el-Akhir (June), the first prediction was not more unsuccessful than usual. Shortly afterwards, the same reverend man again dreamt that, seeing two individuals violently quarrelling, with *voies de fait*, he had hastened, like a true believer, to separate and to reconcile them. But what was his surprise when the brawlers proved to be the Sultan and the Czar, the former administering condign personal punishment to his hereditary foe. This, the enlightened Shaykh determined, was a sign that in September the Osmanli would be gloriously triumphant. Nor was he far wrong. The Russians, who had begun the campaign, like the English in India, with a happy contempt both for the enemy and for the elementary rules of war, were struck with a cold fit of caution: instead of marching straight upon and intrenching themselves in Adrianople, they vainly broke their gallant heads against the improvised earthworks of Plevna. And ignorant Europe, marvelling at the prowess of the "noble Turk," ignored the fact that all the best "Turkish" soldiers were Slavs, originally Christians, renegades of old, unable to speak a word of Turkish; preserving their Bosniac family-names, and without one drop of Turkish blood in their veins. Sulayman

Pasha's army was about as "Turkish" as are the Poles or the Hungarians.

Not the less did Cairo develop the normal season-humours of the Frank. Among the various ways of "doing the Pyramids," I registered a new one: Mr. A——, junior, unwilling wholly to neglect them, sent his valet with especial orders to stand upon the topmost plateau. The "second water" of irrigation made November dangerous; many of the "Shepheards" suffered from the Ayán el-Mulúk, the "Evil of Kings" (gout), in the gloomy form as well as the gay; and whisky-cum-soda became popular as upon the banks of the Thames and the Tweed. As happens on dark days, the money-digger was abroad, and one anecdote deserves record. Many years ago, an old widow body had been dunned into buying, for a few piastres, a ragged little manuscript from a pauper Maghrabi. These West Africans are, *par excellence*, the magicians of modern Egypt and Syria; and here they find treasure, like the Greeks upon the shores of the Northern Adriatic. Perhaps there may be a basis for the idea; oral traditions and written documents concerning buried hoards would take refuge in remote regions, comparatively undisturbed by the storms of war, and inhabited by races more or less literary. At any rate, the Maghrabi Darwaysh went his ways, assuring his customer that,

when her son came of age, a fortune would be found in the little book. And true enough, the boy, reaching man's estate, read in its torn pages ample details concerning a Dafínah (hoard) of great value. He was directed, by the manuscript, to a certain spot upon the Mukattam range, immediately behind the Cairene citadel, where the removal of a few stones would disclose a choked shaft: the latter would descend to a tunnel, full of rubbish, and one of the many sidings would open upon the golden chamber. The permission of Government was secured, the workmen began, and the directions proved true—"barring" the treasure, towards which progress was still being made. Such was the legend of Cairo, as recounted to me by my good friend, Yacoub Artin Bey; I can only add to it, *Allaho A'alam!*—Allah is all-knowing!

The sole cause of delay in beginning exploration was the want of money; and this, of course, even the Prince Minister of Finance could not coin. Egypt, the fertile, the wealthy, the progressive, was, indeed, at the time all but insolvent. At the suggestion of foreigners, "profitable investments," which yielded literally nothing, had been freely made for many a year, and the sole results were money difficulties and debt. The European financiers had managed admirably for their shareholders; but, having assumed the annual national income at a maximum,

instead of a minimum, they had brought the goose of the golden eggs to the very verge of death. The *actionnaires* were to receive, with a punctuality hardly possible in the East, the usurious interest of six per cent., not including one per cent. for sinking fund. Meanwhile, the officers and officials, military, naval, and civil, had been in arrears of salary for seven to fifteen months; and even the Jews refused to cash at any price their pay certificates.

Nothing could be more unwise or unjust than the exactions of the creditors. Men must live; if not paid, they perforce pay themselves; and thus, of every hundred piastres, hardly thirty find their way into the treasury. Ten times worse was the condition of the miserable Felláhín, who were selling for three or four napoleons the bullocks worth fifteen per head. Thus they would tide over the present year; but a worse than Indian famine was threatened for the following. And the "Bakkál," at once petty trader and money-lender, whose interest and compound interest here amount, as in Bombay, to hundreds per cent., would complete the ruin which the "low Nile" and the Christian creditor had begun.

A temporary reduction of interest to three per cent., with one per cent of amortization, should content the greedy shareholder, who seeks to combine high profits with perfect security. During Novem-

ber, 1877, there were five M.P.'s at Shepheard's; and all cried shame upon the financial condition of the country. Sir George Campbell opened the little game. In his "Inside View of Egypt" (*Fortnightly Review*, Dec., 1877) he drew a graphic picture of the abnormal state of poor Egypt; he expressed the sensible opinion that, in the settlement, the claims of the bond-holders have been too exclusively considered, and he concluded that no more payments of debt-interest should be made until official arrears are discharged.

At last the *Phare d'Alexandrie* (November 29, 1877), doubtless under official inspiration, put forth the following article, greatly to the satisfaction of the unfortunate *employés*:—

"Si nos renseignements particuliers sont exacts, le comité des finances vient de prendre une excellente décision. Elle consiste en ce que, aussitôt l'argent pour le paiement du prochain coupon, préparé, le ministère, avant tout autre, procédera au paiement des appointements arriérés des employés.

"Nous apprenons, on outre, que S. A. le ministre des finances, même, a déclaré, *motu proprio*, que jusqu'au complet paiement des arriérés dûs aux employés, et dans le cas oú il se présenterait une dépense de grande importance, prévue même par le budget, de ne pas en ordonner le paiement sans, au préalable, le sommettre à l'adhésion du comité.

"Nous applaudissons de toutes nos forces à cette bonne nouvelle d'abord, parcequ'elle affirme une fois de plus la scrupuleuse exactitude qu'on apporte au paiement des coupons, ensuite elle prouve le vif intérêt qu'inspire au gouvernement la situation de ses nombreux employés, enfin elle nous fait espérer qu'après avoir songé à eux, on s'occupera aussi à payer les autres sommes portées et prévues au budget de l'année."

Accordingly, on December 2nd, the Prince Minister of Finance took heart of grace, and distributed among the officials one month's pay, with a promise that all arrears should presently be made good. On the same day his Highness issued to the Expedition 2000 napoleons, in addition to the 620 already expended upon instruments and provisions. This was the more liberal, as I had calculated the total at 1500: the more, however, the better. In such work it is money *versus* time, the former saving the latter; and we were already late in the year—it had been proposed to start on November 15th, and we had lost three precious weeks of fine autumnal weather. The stores were equally abundant: I wanted one forge, and received three.

Of course, many details had been forgotten; *e.g.*, a farrier and change of mule-irons, a tinsmith and tinning tools, a sulphur-still, boots for the soldiers and the quarrymen, small shot for specimens, and so forth. I had carried out my idea of a Dragoman with two servants; and the result had been a model failure, especially in the most important department. The true "Desert cook" is a man *sui generis;* he would utterly fail at the Criterion, and even at Shepheard's; but in the wilderness he will serve coffee within fifteen minutes, and dish the best of dinners within the hour after the halt.

Mr. Clarke and Lieutenant Amir worked with a

will; and they were ably seconded by Colonel Ali Bey Robi and Lieutenant-Colonel (of the Staff) Mohammed Bey Báligh. But the finishing touch to such preparations must be done by the master hand; and my unhappy visit to Karlsbad rendered that impossible. The stores and provisions were supplied by MM. Voltéra Brothers, of Cairo: I cannot say too much in their praise; and the packing was as good as the material. M. Gross, of Shepheard's, was good enough to let me have a barrel of claret; which improved every week by travelling, and which cost only a franc a bottle: it began as a *bon ordinaire*, and the little that returned to Cairo ranked with a quasi-*grand vin*, at least as good as the four-shilling Medoc. Finally, Dr. Lowe, of Cairo, kindly prepared for us a medicine chest, containing about £10 worth of the usual drugs and appliances—calomel, tartar emetic, and laudanum; blister, plaster, and simple ointment.*

A special train was made ready for Thursday, December 6th; and, at ten a.m., after taking leave

* For Arabian travel I should advise aconite, instead of Dover's powder; Cockle's pills, in lieu of blue mass; Warburg's Drops, in addition to quinine; pyretic saline and Karlsbad, besides Epsom salts; and chloral, together with chlorodyne. "Pain Killer" is useful amongst wild people, and Oxley's ginger, with the simple root, is equally prized. A little borax serves for eye-water, and alum for sore mouth. I need not mention special medicines like the *liqueur Laville*, and the invaluable Waldöl (oil of the maritime pine), which each traveller must choose for himself.

of their Highnesses, who courteously wished me good luck and God-speed, the Expedition found itself under weigh. We were accompanied to the station by many kind friends: my excellent kinsman Lord Francis, and Lady F. Conyngham, Yacoub Artin Bey, General Stone, and MM. George, Garwood, Girard, and Guillemine.

The change from the damp air of Cairo to the drought of the Desert was magical: light ailments and heavy cares seemed to fall off like rags and tatters. We halted at Zagázig, remarking that this young focus of railway traffic has become the eastern key of Lower Egypt, as Benhá is to the western delta; and prophesying that some day, not far distant, will see the glories of Bubastis revived. Here we picked up my old friend Haji Wali, whom age—he declares that he was born in the month Mízán of 1797—had made only a little fatter and greedier. We gave a wide berth to the future Alexandria, Ismailíyyah, whose splendid climate has been temporarily spoilt by the sweet-water canal of the same name. The soil became literally sopped; and hence the intermittent fevers which have lately assailed it. A similar disregard for drainage has ingeniously managed to convert into pest-houses Simla and other Himalayan sanitaria.

The day ended with running the train into the Suez Docks, so as to embark all our impediments on

the next morning; and I fondly expected Saturday to see us sail. But the weather-wise had been true in their forecasts. Friday opened with howling, screaming gusts of southerly wind; and, during the night we were treated to a fierce display of storm,—thunder and lightning, and rain. The gale caused one collision on the Canal, and twenty-five steamers were delayed near the Bitter Lake; it broke down the railway and sanded it up for miles, and it levelled fifty English and forty Egyptian telegraph-posts—an ungentle hint to prefer the telephone. Saturday, the beginning of winter, opened with a cold raw souther and a surging sea, which washed over the Dock-piers; in such weather it was impossible to embark ten mules without horse-boxes. On Sunday the waves ran high, but the gale fell about sunset to a dead calm; as usual in the Gulf, the breakers and white horses at once disappeared; and the slaty surface, fringed with dirty yellow, immediately reassumed its robes of purple and turquoise-blue. The ill wind, however, had blown us some good by deluging with long-hoped-for rain the now barren mountains of Midian.

This "Fortuna," according to the people, sets in with the fourth Coptic month, Kayhák,* which

* It is Lane's "Kiyakh, *vulgò* Kiyák," and Michell's "Kyhak, the ancient Khoiak," or fourth month. The Copts begin their solar year on our September 10–11; and date from the 2nd of

begins the first Arba'ín ("Forty-day period"); and the fourth day is known as the *Imtizáj el-Faslayn*, or "Mixture of the two Seasons"—autumn and

Diocletian, or the Era of the "Martyrs" (A.D. 284). It is the old Sothic, or *annus quadratus*, which became the Alexandrine under the Ptolemies; and which Sosigenes, the Egyptian, converted into the Julian, by assuming the *Urbs condita* as a *point de départ*, and by transferring New Year's Day from the equinox to the solstice.

Thus Kayhák 1, 1594, would correspond with December 9, A.D. 1877, and with Zú'l-Hijjah 4, A.H. 1294. On the evening of Kayhák 14 (December 22nd) winter is supposed to set in. The fifth month, Tubá—Lane's "Toobeh," and Michell's "Toubeh, the ancient Tobi"—is the coldest of the year at Suez, on the isthmus and in the adjacent parts of Arabia; rigorous weather generally lasts from January 20th to February 20th. In Amshír, about early March, torrents of rain are expected to fall for a few hours. The people say of it, in their rhyming way, *Amshír, Za'íb el-kathir*—"Amshír hath many a blast;" and

"Amshír
Yakul li'l-Zara' 'Sir!
Wa yalhak bi'l-tawíl el-kasír.'"

"Amshír saith to the plants, 'Go (forth), and the little shall reach the big.'" It is divided into three 'Asharát or tens—1. 'Asharat el-'Ajúz ("of the old man"), from the cold and killing wind El-Husúm; 2. 'Asharat el-'Anzah ("of the she-goat"), from the blasts and gales; and 3. 'Asharat el-Rá'í ("of the shepherd"), from its change to genial warmth. Concerning Barmahát (*vulgò* Baramhát), of old Phamenoth (seventh month), the popular jingle is, *Ruh el-Ghayt wa hát*—"Go to the field and bring (what it yields);" this being the month of flowers, when the world is green. *Barmúdah* (Pharmuthi)! *dukh bi'l-'amúdah* ("April! pound with the pestle!") alludes to the ripening of the spring crops; and so forth almost *ad infinitum*. For more information see the "Egyptian Calendar," etc. (Alexandria: Mourès, 1878), a valuable compilation by our friend Mr. Roland L. N. Michell, who will, let us hope, prefix his name to a future edition, enlarged and enriched with more copious quotations from the weather-rhymes and the folk-lore of Egypt.

winter. The storm is expected to blow three days from the Azyab (south-east) or from the Shirs (south-west). The qualities of the several winds are described in the following distich :—

"Mirísi Shaytán, wa Gharbi Wazírhu ;
Tiyáb Sultán, wa Sharki Nazírhu."

"The south-wester's a Satan, and the wester's his minister ;
The norther's a Sultan, and the easter's his man."

On the other hand, fair weather was predicted after the first quarter of the moon (December 12th), according to the saying of the Arab sailor:—

"When the moon sleeps, the seaman may sleep ;
When the moon stands, the seaman must stand."

The "sleeping" moon—*náim* or *rákid*, also called *Yemáni*—is that of the first quarter, which we mark concave to the left ; the "standing" moon is that of the last.

Our stay at Suez was saddened by the sudden death of Marius Isnard, who had acted cook to the first Khedivial Expedition. The poor lad, aged only eighteen, had met us at the Suez station, delighted with the prospect of another journey; he had neglected his health ; and, after a suppression of two days, which he madly concealed, gangrene set in, and he died a painful death at the hospital during the night preceding our departure.

On December 10th we ran down from Suez Quay

in the *Bird of the Sea* (Tayr el-Bahr), the harbour *mouche*, or little steam-launch, accompanied by the Governor, Sa'íd Bey, who has not yet been made a Pasha; by Mr. Consul West; by the genial Ra'íf Bey, Wakíl el-Komandaníyyah or acting commodore of the station; by Mr. Willoughby Faulkner, my host at Suez; by the Messieurs Levick, and by other friends. In the highest spirits we boarded our "gun-carriage," the *aviso Mukhbir* (Captain Mohammed Siráj); and, after many mutual good wishes, we left the New Docks at 6.10 p.m.

Nothing could be more promising than the weather, a young moon mirrored in a sea smooth as oil. The "Giver of Good News" (*El-Mukhbir*), however, for once failed in her mission. She had lately conducted herself well upon a trial trip round the Zenobia lightship ("Newport Rock").* But the two Arab firemen who acted engineers, worn-out grey-beards that hated the idea of four months on the barbarous Arabian shore, had choked the tubes with wastage, and had filled the single boiler, taking

* This is a most interesting feature. According to Forskâl (Descriptiones xxix.), "Suénsia litora, a recedente mari serius orta, nesciunt corallia;" and he makes the submaritime "Cryptogama regio animalis" begin at Tor (Raitha) and extend to Gonfoda. Near Suez is the Newport Shoal, which could be sailed over with impunity twenty years ago, and which is now dangerous: it resembles, in fact, the other reef at the entrance of the Gulf, where the soundings have changed, in late years, from 7–7½ fathoms to 3–3½. Geologists differ as to the cause—elevation or accretion by current-borne drift.

care to plug up, instead of opening, the relief-pipe. The consequence was that the engines sweated at every pore; steam instead of water streamed from the sides; and the chimney discharged, besides smoke, a heavy shower of rain. The engine (John Jameson, engineer, Newcastle-on-Tyne, 1866), a good article, in prime condition as far as a literally rotten boiler would allow, presently revenged itself by splitting the air-pipe of the condenser from top to bottom; and after two useless halts the captain reported to me that we must return to Suez. What a beginning! The fracture somewhat relieved the machinery; we did better work after than before the accident, but we were ignobly towed into dock by the ship's boats.

A telegram with a *procès-verbal* was at once sent off to the Prince; Sa'íd Bey and Ra'íf Bey hastened to our aid, and Mr. Williams, superintending engineer of the Khedivíyyah line, with the whole of his staff, stripped and set to work at the peccant tubes and air-pump. They commenced with extinguishing a serious fire which burst from the waste-room—by no means pleasant when close to kegs of blasting-powder carefully sewn up in canvas. They laboured with a will, and before sunset Mr. Williams informed us that he would guarantee the engines for eight days, when we were starting on a dangerous cruise for four months. He also

supplied us with an Egyptian boiler-maker and with eleven instead of sixty new tubes: we lost forty-two of the old ones between Suez and El-Muwaylah. Before sunset we made a trial trip, the wretched old kettle acting *tant bien que mal;* we returned to re-embark the soldiers and the mules, and we set out for the second time at 5.30 p.m.

The *Mukhbir*, 130 feet long, 380 tons, and 80 to 90 horse-power, under charge of the English or rather Scotch engineer, Mr. David Duguid, who had taken the place of the two Arab firemen, began with 7½ knots an hour, 68 revolutions per minute, and a pressure of 9 lbs. to the square inch. The condenser-vacuum was 26 inches (30 being complete) = 13 lbs. Next morning the rate declined to six miles in consequence of the boiler leaking, and matters became steadily worse. As a French writer says of the *genre humain*, we were placed, not *entre le bien et le mal*, but *entre le mal et le pire.* After sundry narrow escapes in the Gulf of 'Akabah, we were saved, as will be seen, by a manner of miracles. Briefly, the *Mukhbir* caused us much risk, heartburn, and loss of time.

Seven a.m. (December 11th) found us crossing the Birkat Fara'ún — Pharaoh's Gulf — some sixty miles from the great port. Its horrors to native craft I have already described in my "Pilgrimage." Between this point and Ras Za'faránah, higher up, the

wind seems to split: a strong southerly gale will be blowing, whilst a norther of equal pressure prevails at the Gulf-head, and *vice versâ*. Suez, indeed, appears to be, in more ways than one, a hydrographical puzzle. When it is low water in and near the harbour, the flow is high between the Straits of Jobal and the Dædalus Light; and the ebb tide runs out about two points across the narrows, whilst the flood runs in on a line parallel with it. Finally, when we returned, hardly making headway against an angry norther, Suez, enjoying the "sweet south," was congratulating the voyagers upon their weather.

The loss of a good working day soon made itself felt. The north wind rose, causing the lively *Mukhbir*, whose ballast, by-the-by, was all on deck, to waddle dangerously for the poor mules; and it was agreed, *nem. con.*, to put into Tor harbour. We found ourselves at ten a.m. (December 12th) within the natural pier of coralline, and we were not alone in our misfortune; an English steamer making Suez was our companion. This place has superseded El-Wijh as the chief quarantine station for the return pilgrimage; and I cannot sufficiently condemn the change.* The day lagged slowly, as we

"Walked in grief by the marge of the many-voiced sounding sea."

But we looked in vain for our "tender," a Sambúk

* In Chap. XIV. we will return to this subject.

of fifty tons, *El-Musahhil* (Rais Ramazan), which Prince Husayn had thoughtfully sent with us as post-boat. She disappeared on the evening of the 11th, and she did not make act of presence until the 16th, when her master was at once imprisoned in the fort of El-Muwaylah. Moreover, the owner, Mohammed Bukhayt, of Suez, who had received £90 as advance for three months—others said £60 for four—provided her with only a few days' provisions, leaving us to ration his crew.

A wintry norther in these latitudes is not easily got rid of. According to the people, here, as in the 'Akabah Gulf, it lasts three days, and dies after a quiet noon; whereas on the 13th, when we expected an escape, it rose angrily at one p.m. I was much cheered by the pleasant news of M. Bianchi, the local *Deputato di Sanità*, who assured us that a *pernicieuse* was raging at El-Muwaylah, and that it was certain death to pass one night in the fort. The only fire that emitted all this smoke was the fact that during the date-harvest of North-Western Arabia, July and August, agues are common; and that at all seasons the well water is not "honest," and is supposed to breed trifling chills. In the Prairies of the Far West I heard of a man who rode some hundreds of miles to deliver himself of a lie. Nothing like solitude and the Desert for freshening the fancy. Another individual who was much

exercised by our journey was Khwájeh Konstantin, a Syrian-Greek trader, son of the old agent of the convent, whose blue goggles and comparatively tight pantaloons denoted a certain varnish and veneer. It is his practice to visit El-Muwaylah once every six months; when he takes, in exchange for cheap tobacco, second-hand clothes, and poor cloth, the coral, the pearls fished for in April, the gold dust, the finds of coin, and whatever else will bring money. Such is the course and custom of these small monopolists, who, at "Raitha" and elsewhere, much dislike to see quiet things moved.

At length, after a weary day of *far niente*, when even *le sommeil se faisait prier*, we "hardened our hearts," and at nine p.m., as the gale seemed to slumber, we stood southwards. The *Mukhbir* rolled painfully off Ras Mohammed, which obliged us with its own peculiar gusts; and the 'Akabah Gulf, as usual, acted wind-sail. A long *détour* was necessary in order to spare the mules, which, however, are much less liable to injury, under such circumstances, than horses, having a knack of learning to use sea-legs.

The night was atrocious; so was the next morning; but about noon we were cheered by the sight of the glorious mountain-walls of well-remembered Midian, which stood out of the clear blue sky in passing grandeur of outline, in exceeding splen-

dour of colouring, and in marvellous sharpness of detail. Once more the "power of the hills" was on us.

Three p.m. had struck before we found ourselves in broken water off the fort of El-Muwaylah, where our captain cast a single anchor, and where we had our first escape from drifting upon the razor-like edges of the coralline reefs. In fact, everything looked so menacing, with surging sea around and sable storm-clouds to westward, that I resolved upon revisiting our old haunt, the safe and dock-like Sharm Yáhárr. Here we entered without accident; and were presently greeted by the Sayyid 'Abd el-Rahím, our former Káfilah-báshi, who had ridden from El-Muwaylah to receive us. The news was good: a truce of one month had been concluded between the Huwaytát and the Ma'ázah, probably for the better plundering of the pilgrims. This year the latter were many: the "Wakfah," or standing upon Mount Ararat, fell upon a Friday; consequently it was a Hajj el-Akbar, or "Greater Pilgrimage," very crowded and very dangerous, in more ways than one.

I had given a free passage to one Sulaymán Aftáhi, who declared himself to be of the Beni 'Ukbah, when he was a Huwayti of the Jeráfín clan. After securing a free passage and provision gratis, when the ship anchored, he at once took French

leave. On return I committed him to the tender mercies of the Governor, Sa'íd Bey. The soldiers, the quarry-men, and the mules were landed, and the happy end of the first stage brought with it a feeling of intense relief, like that of returning to Alexandria. Hitherto everything had gone wrong: the delays and difficulties at Cairo; at Suez, the death of poor Marius Isnard and the furious storm; the break-down of the engine; the fire in the waste-room; and, lastly, the rough and threatening gale between the harbour and El-Muwaylah. What did the Wise King mean by "better is the end of a thing than the beginning thereof"? I only hope that it may be applicable to the present case. In the presence of our working ground all evils were incontinently forgotten; and, after the unusual dankness of the Egyptian capital, and the blustering winds of the Gulf and the sea, the soft and delicate air of the Midian shore acted like a cordial. For the first time after leaving Alexandria, I felt justified in *taper de l'œil* with the clearest of consciences.

The preliminary stage ended with disembarking at the Fort, El-Muwaylah, all our stores and properties, including sundry cases of cartridges and five hundred pounds of pebble-powder, which had been stored immediately under the main cabin and its eternal cigarettes and *allumettes*. The implements, as well as the provisions, were made over

to the charge of an old Albanian, one Rajab Aghá, who at first acted as our magazine-man for a consideration of two napoleons per month, in advance if possible. This done, the *Mukhbir* returned into the dock Yáhárr, in order to patch up her kettle, which seemed to grow worse under every improvement. We accompanied her, after ordering a hundred camels to be collected; well knowing that as this was the Bairam, 'Id, or "Greater Festival," nothing whatever would be done during its three days' duration.

The respite was not unwelcome to me; it seemed to offer an opportunity for recovering strength. At Cairo I had taken the advice of a learned friend (if not an "Apostle of Temperance," at any rate sorely afflicted with the temperance idea), who, by threats of confirmed gout and lumbago, fatty degeneration of the heart and liver, ending in the possible rupture of some valve, had persuaded me that man should live upon a pint of claret per diem. How dangerous is the clever brain with a monomania in it! According to him, a glass of sherry before dinner was a poison, whereas half the world, especially the Eastern half, prefers its potations preprandially; a quarter of the liquor suffices, and both appetite and digestion are held to be improved by it. The result of "turning over a new leaf," in the shape of a phial of thin "Gladstone," was a lum-

bago which lasted me a long month, and which disappeared only after a liberal adhibition of "diffusible stimulants."

It required no small faith in one's good star to set out for a six weeks' work in the Desert under such conditions. My consolation, however, was contained in the lines attributed to half a dozen who wrote good English :—

> "He either fears his fate too much,
> Or his deserts are small,
> Who dares not put it to the touch,
> To gain or lose it all."

This time, however, Mind was tranquil, whatever Matter might suffer. As the novelist says, "Lighting upon a grain of gold or silver betokens that a mine of the precious metal must be in the neighbourhood." It had been otherwise with my first Expedition: a forlorn hope, a miracle of moral audacity; the heaviest of responsibilities incurred upon the slightest of justifications, upon the pinch of sand which a tricky and greedy old man might readily have salted. It reminds me of a certain "Philip sober," who in the morning fainted at the sight of the precipice which he had scaled when "Philip drunk." I look back with amazement upon No. 1.

NOTE.

The second Khedivial Expedition to Midian was composed of the following officers and men. The European staff numbered four, not including the commander, viz. :—

M. George Marie, of the État-Major, Egyptian army, an engineer converted into a geologist and mineralogist; he was under the orders of his Highness Prince Husayn Pasha.

Mr. J. Charles J. Clarke, telegraphic engineer, ranking as major in Egypt, commissariat officer.

M. Émile Lacaze, of Cairo, artist and photographer.

M. Jean Philipin, blacksmith.

Besides these, Mr. David Duguid,—not related to "Hafed, Prince of Persia,"—chief engineer of the gunboat *Mukhbir* (Captain Mohammed Síráj), accompanied us part of the way on temporary leave, and kindly assisted me in observing meteorology and in making collections.

The Egyptian commissioned officers numbered six, viz. :—

Ahmed Kaptán Musallam, commander in the navy, and ranking as Sakulághási (major). He had been first officer in the *Sinnár*, and he was sent to make astronomical observations; but he proved to be a confirmed invalid.

Of the Arkán-Harb (Staff) were :—

Lieutenant Amir Rushdi, who had accompanied me before.

Lieutenant Yusuf Taufík.

Lieutenant Darwaysh Ukkáb, of the Piyádah or infantry. He was also a great sufferer on a small scale.

Sub-Lieutenant Mohammed Farahát, of the Muhandisín (Engineers), in charge of the Laggámgiyyah or Haggárah (blasters and quarrymen). He ended by deserting his duty on arrival at Cairo.

The non-commissioned officers, all Egyptians, amounted to seven :—

Bulúk-amín (writer) Mohammed Sharkáwi (infantry).

Chawush (serjeant) 'Atwah El-Ashírí (infantry).

Chawush (serjeant) Mabrúk Awadh (quarryman); deserted at Cairo.

Onbáshi (corporal) Higázi Ammár (Staff).

Onbáshi (corporal) Mohammed Sulaymán (infantry); also our barber, and a good man.

Onbáshi (corporal) Mahmúd Abd el-Rahmán (infantry): I had to put him in irons.

Onbáshi (corporal) Ibráhím Hedíb.

There were three Nafar (privates) of the Staff:—

'Ali 'Brahim Ma'danji, generally known as Ali Marie, from the officer whom he served; a hard-working man, over-devoted to his master. I recommended him for promotion.

Ramazán Ramazán.

Hasan Mohammed. He proved useful, as he brought with him all the necessary tools for mending saddles.

The twenty-five privates of infantry were emancipated negroes, a few being from the Súdán; composed of every tribe, it was a curious mixture, good, bad, and indifferent. Some were slaves who had been given, in free gift, by their owners to the Mírí (Government), and men never part with a good "chattel," except for a sufficient cause. As will be seen, many of the names are "fancy":—

Sayyid Ahmed El-Tawíl.

Yúsuf Faragallah (Faraj-Allah).

Farag 'Ali.

Sa'íd Hasan Báshá. His owner was a Fellah called Hasan Báshá—peasants often give this title as a name to a boy who is born under fortunate circumstances. Sa'íd was a fat, jolly fellow, a *Sídí Bhái* from the Mrímá, or mainland of Zanzibar, who had wholly forgotten his Kisawáhílí. Corporal Mahmúd was punished for keeping him eighteen hours on guard. He was one of the very few to whom I gave "bakhshísh" after returning to Cairo.

Sa'íd El-Sa'id.

Mirsal Ginaydi.

Mabrúk Rizk.

Abdullah Mohammed Zaghúl.

Sa'íd Ḳatab.

Faragallah Sharaf el-Dín.

Farag Sálih.

Surúr Mustafá.

Salámat el-Nahhás; an excellent and intelligent man, who was attached to the service of M. Lacaze. He distinguished himself by picking up antiques, until his weakness, the *Dá el-Faranj*, found him out.

Farag Ahmed Bura'í.

Farag Mohammed Amín.
Mirgán Sulaymán.
'Abd el-Maulá.
Mohammedayn.
Mabrúk Hasan Osmán.

Khayr Ramazán, a large and sturdy negro, from Dár-Wadái, with long cuts down both sides of his face; a hard-working and intelligent soldier, who naturally took command of his fellows. I made him an acting corporal, and on return recommended him for promotion.

Fadl 'Allah 'Ali el-Kholi, a Shillúk, one of the worst tribes of the Upper Nile, whom it is forbidden to enlist. He began by refusing to obey an order, he pushed an officer out of his way, and he struck an Arab Shaykh. Consequently, he passed the greater part of the time in durance vile at the fort of El-Muwaylah.

Mirgán Yúsuf; flogged for insolence to his officer, January 19.
Abdullah Ibráhím.
Ibráhím Kattáb.
Mabrúk Mansúr Agwah.

The Boruji (bugler) Mersál Abú Dunyá, a "character" who retires for practice to lonely hills and vales. His progress is not equal to his zeal and ambition.

The thirty quarrymen were all Egyptians, and it would be hard to find a poorer lot; they never worked, save under compulsion, and they stole whatever they could. I examined their packs during the homeward cruise, and found that many of them had secreted Government gunpowder:—

Ahmed Ashiri.
Ahmed Badr.
Ahmed el-Wakíl.
Omar Sharkáwi.
5. Mustafá Husayn.
Ismaíl el-Wá'í.
Ali Zalat.
Ali 'Abd el-Rahmán.
Mustafá Sálim.
10. 'Ali Bedawi.
Hanná Bisháai.
Hamed Hanafi.
Hamed Wahlah.

Mustafá Sa'dáni (died of fever at El-Muwayláh).
15. Mahmúd Gum'ah.
Abú Zayd Hassánah.
Ismaíl Dusúki.
Sukk el-Fakíh.
Isá el-Dimíkí.
20. 'Ali Awadh.
Mohammed Sulaymán.
Ibráhím 'Ali Mohammed.
'Ali Isá.
Mohammed 'Abd el-Záhir.
25. 'Ali Wahish.
Abbási Mansúr (a tinman by trade, but without tools).
Gálút Ali.
Usmán Ámir.
Alewá Ahmed.
30. Mohammed Ajízah.

And lastly (31), the carpenter, 'Ali Sulaymán; a "knowing dodger," who brought with him a little stock-in-trade of tobacco, cigarette-paper, and similar comforts.

There were five soldiers, or rather matchlock-men, engaged from the fort-garrison, El-Muwaylah:—

Husayn Bayrakdár; a man who has travelled, and has become too clever by half. He was equally remarkable as a liar and as a cook.

Bukhayt Ahmed, generally known as El-Ahmar from his red coat; a Dinká slave, some sixty years old, and looking forty-five. He was still a savage, never sleeping save in the open air.

Bukhayt Mohammed, popularly termed El-Aswad; a Foráwi (Dár-Forian) and a good man. He was called "The Shadow of the Bey."

Ahmed Sálih; a stout fellow, and the worst of guides.

Sálim Yúsuf.

The head of the caravan was the Sayyid 'Abd el-Rahím, accountant at the Fort el-Muwaylah, of whom I have spoken before. He was subsequently recommended by me to his Highness for the post of Názir or commandant.

Haji Wali, my old Cairene friend, who lost no time in bolting.

There were also generally three Bedawi Shaykhs, who, by virtue of their office, received each one dollar (twenty piastres) per diem.

The servants and camp followers were :—

Anton Dimitriadis, the dragoman ; a Bakkál or small shopkeeper at Zagázig, and a tenant of Haji Wali.

Giorgi (Jorgos) Sifenus, the cook, whose main disadvantage was his extreme and ultra-Greek uncleanliness.

Petro Giorgiadis, of Zante ; a poor devil who has evidently been a waiter in some small Greek *café* which supplies a cup per hour.

These three men were a great mistake ; but, as has been said, poor health at Cairo prevented my looking into details.

Yúsuf el-Fazi, Dumánji or quartermaster from the *Mukhbir*, acting servant to Captain Ahmed, and a thoroughly good man. He was also recommended for promotion.

Ahmed, the Saís or mule-groom ; another *pauvre diable*, rascally withal, who was flogged for selling the mules' barley to the Bedawin. He was assisted by the Corporal (and barber) Mohammed Sulaymán and by five quarrymen.

Husayn Ganínah ; a one-eyed little Felláh, fourteen years old, looking ten, and knowing all that a man of fifty knows. He was body-servant to Lieutenant Yusuf.

As usual, the caravan was accompanied by a suttler from El-Muwaylah, one Hamad, who sold tobacco, coffee, clarified butter, and so forth. He was chaffed with the saying, *Hamad fi bayt ak* —"Thy house is a pauper."

Finally, there were two dogs : Juno, a Clumber spaniel, young and inexperienced ; Páijí, a pariah, also a pup.

Besides these two permanents, various "casuals," the dog 'Brahim, etc., attached themselves to our camp.

CHAPTER II.

THE START—FROM EL-MUWAYLAH TO THE "WHITE MOUNTAIN" AND 'AYNÚNAH.

I LANDED at El-Muwaylah, described in my last volume,* on the auspicious Wednesday, December 19, 1877, under a salute from the gunboat *Mukhbir*, which the fort answered with a rattle and a patter of musketry. All the notables received us, in line drawn up on the shore, close to our camp. To the left stood the civilians in tulip-coloured garb; next were the garrison, a dozen Básh-Buzuks *en bourgeois*, and mostly armed with matchlocks; then came our quarrymen in uniform, but without weapons; and, lastly, the escort (twenty-five men) held the place of honour on the right. The latter gave me a loud "Hip! hip! hurrah!" as I passed. The tents, a total of twenty, including two four-polers for our mess and for the stores, with several

* "The Gold-Mines of Midian," etc. (London: C. Kegan Paul & Co., 1878).

large canvas sheds—*páls*, the Anglo-Indian calls them—gleamed white against the dark-green fronds of the date-grove; and the magnificent background of the scene was the "Dibbagh" block of the Tihámah, or lowland mountains.

The usual "palaver" at once took place; during which everything was "sweet as honey." After this pleasant prelude came the normal difficulties and disagreeables—it had been reported that I was the happy possessor of £22,000, mostly to be spent at El-Muwaylah. The unsettled Arabs plunder and slay; the settled Arabs slander and cheat.

A whole day was spent in inspecting the soldiers and mules; in despatching a dromedary-post to Suez with news of our unexpectedly safe arrival, and in conciliating the claims of rival Bedawin. His Highness the Viceroy had honoured with an order to serve us Hasan ibn Salim, Shaykh of the Beni 'Ukbah, a small tribe which will be noticed in a future page. Last spring these men had carried part of our caravan to 'Aynúnah; and they having no important blood-feuds, I had preferred to employ them. But 'Abd el-Nabi, of the Tagayát-Huwaytát clan, had been spoilt by over-kindness during my *reconnaissance* of 1877; besides, I had given him a bowie-knife without taking a penny in exchange. In my first volume he appears as a noble savage,

with a mixture of the gentleman ; here he becomes a mere Fellah-Bedawi.

The claimants met with the usual ceremony ; right hands placed on the opposite left breasts —this is not done when there is bad blood—foreheads touching, and the word of peace, "Salám," ceremoniously ejaculated by both mouths. Then came the screaming voices, the high words, and the gestures, which looked as if the *Kurbáj* ("whip") were being administered. The Huwayti stubbornly refused to march with the other tribe, whom, moreover, he grossly insulted : he professed perfect readiness to carry me and mine gratis, the while driving the hardest bargain ; he spoke of "our land," when the country belongs to the Khediv ; he openly denied his allegiance ; he was convicted of saying, "If these Christians find gold, there will be much trouble (*fitneh*) to us Moslems;" and at a subsequent time he went so far as to abuse an officer. I had "Shaykh'd" him (*Shayyakht-uh*), that is, promoted him in rank, said the Sayyid 'Abd el-Rahím ; and the honour had completely changed his manners. "*Nasagghar-hu*" (We will "small" him), was my reply. The only remedy, in fact, was to undo what had been done ; to cut down, as Easterns say, the tree which I had planted. So he was solemnly and conspicuously disrated ; the fee, one dollar per diem, allotted as travelling and escort-allowance to the chiefs, was

publicly taken from him, and he at once subsided into an ignoble *Walad* ("lad"), under the lead of his uncle, Shaykh 'Aláyan ibn Rabí'. The latter is a man of substance, who can collect at least two thousand camels. Though much given to sulking, on the whole, he behaved so well that, the Expedition ended, I recommended him to his Highness the Viceroy for appointment to the chieftainship of his tribe, and the usual yearly subsidy. With him was associated his cousin, Shaykh Furayj, an excellent man, of whom I shall have much to say; and thus we had to fee three Bedawi chiefs, including Hasan. The latter was a notable intriguer and mischief-maker, ever breeding bad blood; and his temper was rather violent than sullen. When insulted by a soldier, he would rush off for his gun, ostentatiously light the match, walk about for an hour or two threatening to "shyute," and then apparently forget the whole matter.

All wanted to let their camels by the day, whereas the custom of Arabia is to bargain for the march. Thus, the pilgrims pay one dollar per stage of twelve hours; and the post-dromedary demands the same sum, besides subsistence-money and "bakhshísh." But our long and frequent halts rendered this proceeding unfair to the Bedawin. I began by offering seven piastres tariff, and ended by agreeing to pay five per diem while in camp, and

ten when on the road.* Of course, it was too much; but our supply of money was ample, and the Viceroy had desired me to be liberal. In the Nile valley, where the price of a camel is some £20, the average daily hire would be one dollar: on the other hand, the animal carries, during short marches, 700 lbs. The American officers in Upper Egypt reduced to 300 lbs. the 500 lbs. heaped on by the Súdáni merchants. In India we consider 400 lbs. a fair load; and the Midianite objects to anything beyond 200 lbs.

I have no intention of troubling the reader with a detailed account of our three first stages from El-Muwaylah to the Jebel el-Abyaz, or White Mountain.† On December 21st, leaving camp with the most disorderly of caravans—106 camels instead of 80, dromedaries not included—we marched to the mouth of the Wady Tiryam, where we arrived before our luggage and provisions, lacking even "Adam's ale." The Shaykhs took all the water which could be found in the palm-boothies near the shore, and drank coffee behind a bush. This sufficed to give me the measure of these "wall-jumpers."

* Assuming the sovereign at 97 piastres 40 parahs, this hire would be in round numbers one and two shillings; the shilling being exactly 4 piastres 24 parahs. See Chap. VII. for further details.

† Besides a popular account of the stages in "The Gold Mines of Midian," a geographical itinerary has been offered to the *Journal of the Royal Geographical Society*.

Early next morning I set the quarrymen to work, with pick and basket, at the north-western angle of the old fort. The latter shows above ground only the normal skeleton-tracery of coralline rock, crowning the gentle sand-swell, which defines the lip and jaw of the Wady; and defending the townlet built on the northern slope and plain. The dimensions of the work are fifty-five mètres each way. The curtains, except the western, where stood the *Báb el-Bahr* ("Sea gate"), were supported by one central as well as by angular bastions; the northern face had a cant of 32° east (mag.); and the north-western tower was distant from the sea seventy-two mètres, whereas the south-western numbered only sixty. The spade showed a substratum of thick old wall, untrimmed granite, and other hard materials. Further down were various shells, especially *bénitiers* (*Tridacna gigantea*); the harp (here called "Sirinbáz"), and the pearl-oyster; sheep-bones and palm charcoal; pottery admirably "cooked," as the Bedawin remarked; and glass of surprising thinness, iridized by damp to rainbow hues. This, possibly the remains of lachrymatories, was very different from the modern bottle-green, which resembles the old Roman. Lastly, appeared a ring-bezel of lapis lazuli; unfortunately the "royal gem" of Epiphanus was without inscription.

Whilst we were digging, the two staff-officers

rode to the date-groves of Wady Tiryam, and made a plan of the ancient defences—the results of the first Khedivial Expedition had either not been deposited at, or had been lost in, the Staff bureau, Cairo. They found that the late torrents had filled up the sand-pits acting as wells; and the people assured them that the Fiumara had ceased to show perennial water only about five or six years ago.

The second march was disorderly as the first: it reminded me of driving a train of unbroken mules over the Prairies; the men were as wild and unmanageable as their beasts. It was every one's object to get the maximum of money for the minimum of work. The escort took especial care to see that all their belongings were loaded before ours were touched. Each load was felt, and each box was hand-weighed before being accepted: the heaviest, rejected by the rich, were invariably left to the poorest and the lowest clansmen with the weakest and leanest of animals. All at first especially objected to the excellent boxes—a great comfort—made for the Expedition * at the Citadel, Cairo; but

* They were, perhaps, a trifle too long for small beasts: seventy-seven centimètres (better seventy); and too deep, sixty, instead of fifty-eight. The width (forty-six) was all right. The best were painted, and defended from wet by an upper plate of zinc; the angles and the bottoms were strengthened with iron bands in pairs; and they were closed with hasps. At each end was a small block, carrying a strong looped rope for slinging the load to the pack-saddle; of these, duplicates should be provided. In order

they ended with bestowing their hatred upon the planks, the tables, and the long tent-poles. As a rule, after the fellows had protested that their camels were weighted down to the earth, we passed them on the march comfortably riding—for "the 'Orbán can't walk." And no wonder. At the halting-place they unbag a little barley and wheat-meal, make dough, thrust it into the fire, "break bread," and wash it down with a few drops of dirty water. This copious refection ends in a thimbleful of thick, black coffee and a pipe. At home they have milk and Ghí (clarified butter) in plenty during the season, game at times, and, on extraordinary occasions, a goat or a sheep, which, however, are usually kept for buying corn in Egypt. But it is a "caution" to see them feed *alle spalle altrui.*

Nothing shabbier than the pack-saddles; nothing more rotten than the ropes. As these "Desert ships" must weigh about half the sturdy animals of Syria and the Egyptian Delta, future expeditions will, perhaps, do well to march their carriage round by El-'Akabah. The people declare that the experiment has been tried, but that the civilized

to defend our delicate apparatus from excessive shaking, we divided the inside, by battens, into several compartments. The smaller cases of bottles and breakables should have been cut to fit into the larger, but this had been neglected at Cairo. Finally, not a single box gave way on the march: that was reserved for the Suez-Cairo Railway, and for landing at the London Docks.

animal sickens and dies in these barrens; they forget, however, the two pilgrim-caravans.

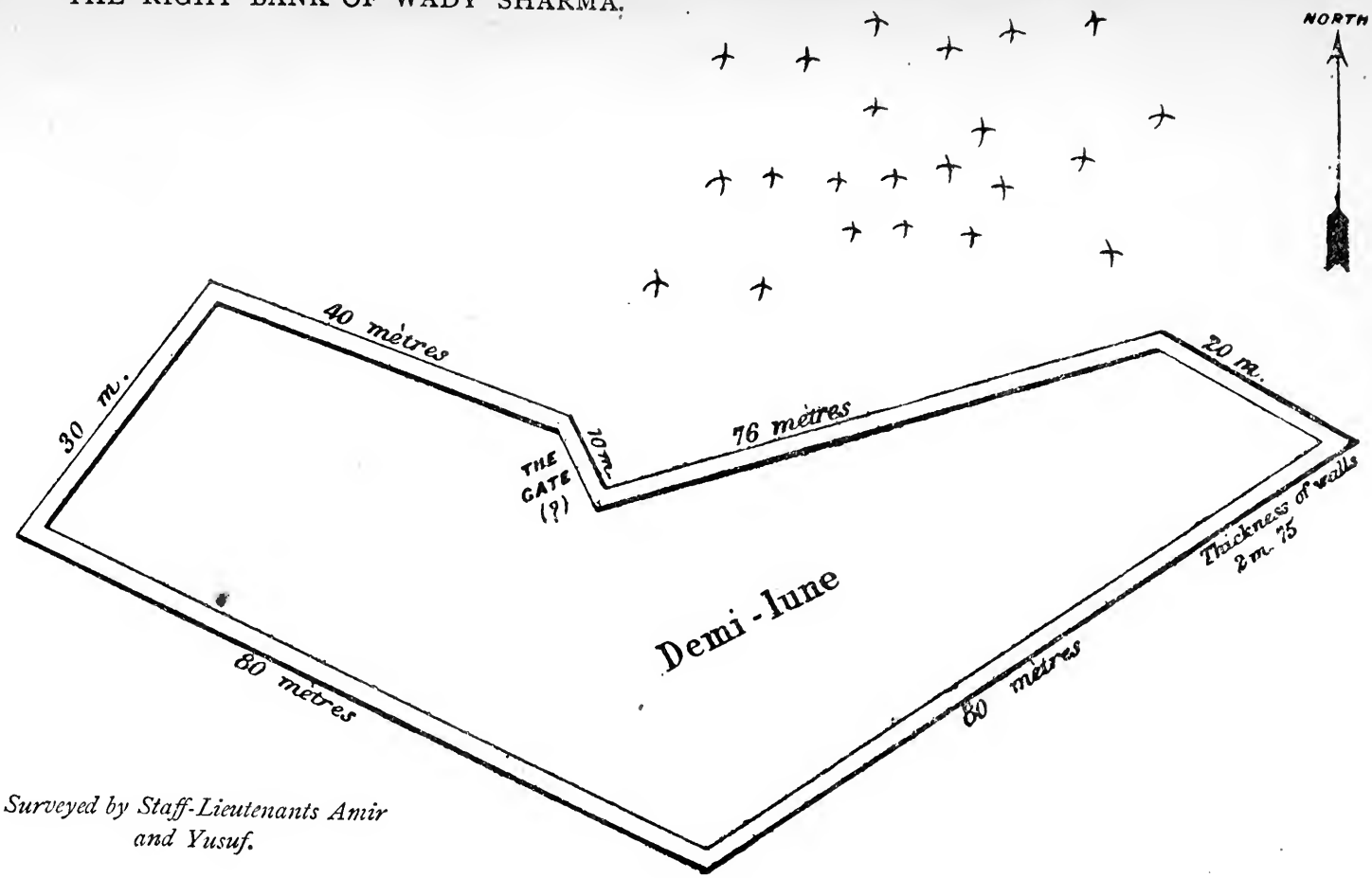
At this season the beasts are half-starved. Their "kitchen" is a meagre ration of bruised beans, and their daily bread consists of the dry leaves of thorn-trees, beaten down by the Makhbat, a flail-like staff, and caught in a large circle of matting (El-Khasaf). In Sinai the vegetation fares even worse: the branches are rudely lopped off to feed the flocks; only "holy trees" escape this mutilation. With the greatest difficulty we prevented the Arabs tethering their property all night close to our tents: either the brutes were cold; or they wanted to browse or to meet a friend: every movement was punished with a wringing of the halter, and the result may be imagined.

We slept that night at Wady Sharmá. Of this ruined town a plan was made for "The Gold-Mines of Midian," by Lieutenant Amir, who alone is answerable for its correctness. We afterwards found layers of ashes, slag, and signs of metal-working to the north-east of the enceinte, where the furnace probably stood. The outline measures 1906 mètres, not "several kilomètres;" and desultory digging yielded nothing but charcoal, cinders, and broken pottery. It was not before nine a.m. on the next day that I could mount my old white, stumbling, starting mule; the delay being caused by M. Marie's small discovery,

which will afterwards be noticed. We crossed both branches of the Sharmá water; and, ascending the long sand-slope of the right bank, we again passed the Bedawí cemetery. I sent Lieutenants Amir and Yusuf to prospect certain stone-heaps which lay seawards of the graves; and they found a little heptangular demi-lune, concave to the north; the curtains varying from a minimum length of ten to a maximum of eighty mètres, and the thickness averaging two mètres, seventy-five centimètres. It was possibly intended, like those above Wady Tiryam, to defend the western approach; and, superficially viewed, it looks like a line of stones heaped up over the dead, with that fine bird's-eye view of the valley which the Bedawi loves for his last sleeping-place.

Thence we passed through the dry *Báb* ("sea-gap"), cut by a torrent in the regular line of the coralline cliff, the opening of the Wady Melláh, off which lay our Sambúk. Marching up the Wady Maka'dah, our experienced eyes detected many small outcrops of quartz, formerly unobserved, in the sole and on the banks. The granite hills, here as throughout Midian, were veined and dyked with two different classes of plutonic rock. The red and pink are felsites or fine-grained porphyries; the black and bottle-green are the coarse-grained varieties, easily disintegrating, and forming hollows

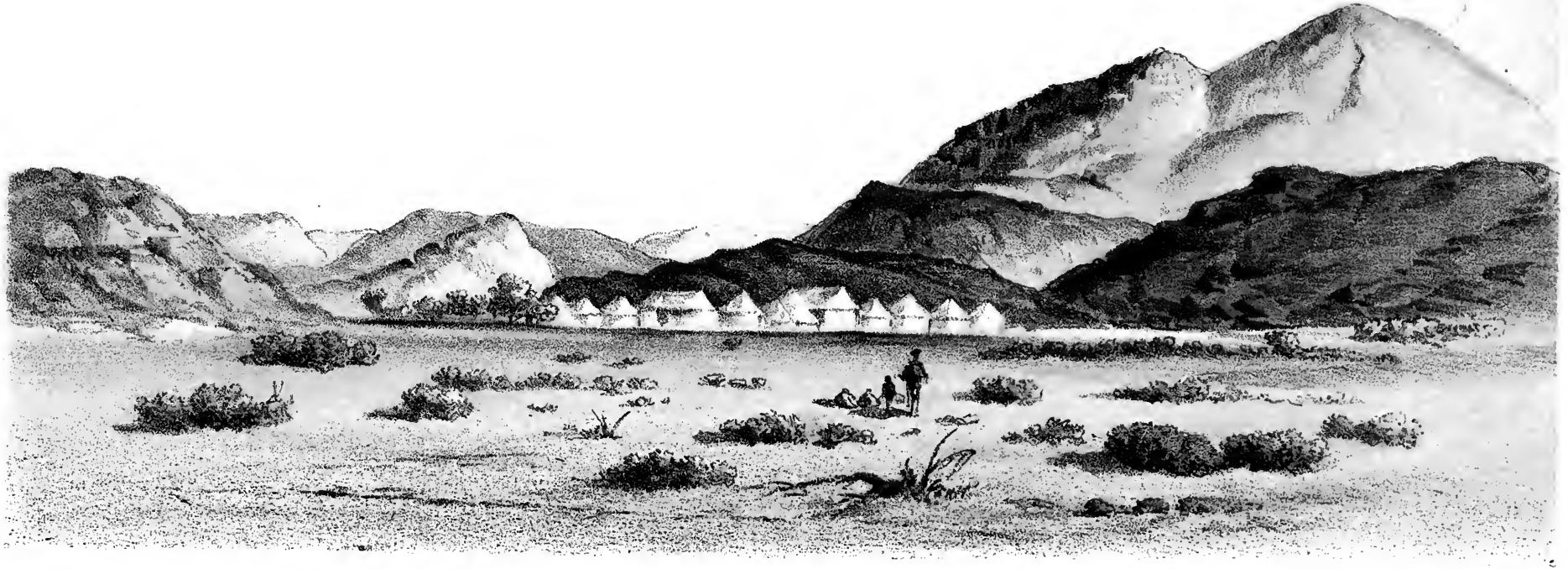
FORTIFICATION ON THE CLIFF COMMANDING THE RIGHT BANK OF WADY SHARMÁ.



Surveyed by Staff-Lieutenants Amir and Yusuf.

in the harder granite. The ride was made charming by the frontage of picturesque Jebel 'Urnub, with its perpendicular Pinnacles upon rock-sheets dropping clear a thousand feet; its jutting bluffs; its three huge flying Buttresses, that seemed to support the mighty wall-crest; and its many spits and "organs," some capped with finials that assume the aspect of logan-stones. There was no want of animal life, and the yellow locusts were abroad; one had been seized by a little lizard which showed all the violent muscular action of the crocodile. There were small long-eared hares, suggesting the *leporide;* sign of gazelles appeared; and the Bedawin spoke of wolves and hyenas, foxes and jackals.

We camped upon the old ground to the south-west of the Jebel el-Abyaz; and at the halt our troubles forthwith began. The water, represented to be near, is nowhere nearer than a two hours' march for camels; and it is mostly derived from rain-puddles in the great range of mountains which subtends maritime Midian. But this was our own discovery. The half-Fellah Bedawin, like the shepherds, their predecessors, in the days of Abimelech and Jethro, are ever chary of their treasure; the only object being extra camel-hire. After eating your salt, a rite whose significance, by-the-by, is wholly ignored throughout Midian and its neigh-



THOS KELL, LITH 40, KING ST COVENT GARDEN

THE WHITE MOUNTAIN

JEBEL EL – ABYAZ.

bourhood, they will administer under your eyes a silencing nudge to an over-communicative friend. The very children that drive the sheep and goats instinctively deny all knowledge of the *Themáil* ("pits") and holes acting as wells.

At the head of the Wady el-Maka'dah we halted six days (December 24—30); this delay gave us time to correct the misapprehensions of our flying visit. The height of the Jebel el-Abyaz, whose colour makes it conspicuous even from the offing when sailing along the coast, was found to be 350 (not 600) feet above the plain. The *Grand Filon*, which a *mauvais plaisant* of a reviewer called the "*Grand Filou*," forms a "nick" near the hill-top, but does not bifurcate in the interior. The fork is of heavy greenish porphyritic trap, also probably titaniferous iron, with a trace of silver,* where it meets the quartz and the granite. Standing upon the "old man" with which we had marked the top, I counted five several dykes or outcrops to the east (inland), and one to the west, cutting the prism from north to south; the superficial matter of these injections showed concentric circles like ropy lava. The shape of the block is a saddleback, and the lay

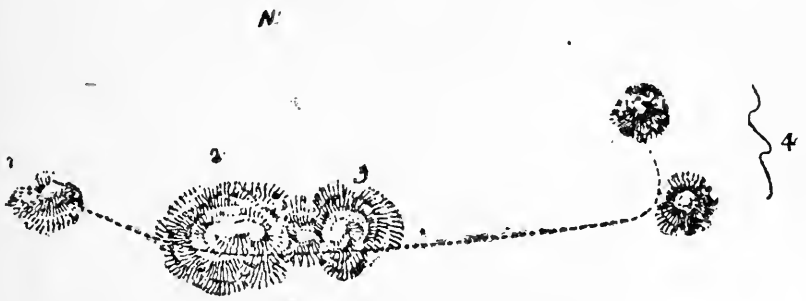
* MM. Gastinel (Bey) and Marie give it per cent. :—

Titaniferous iron	86·50
Silica	10·10
Copper	3·40 ($2\frac{1}{2}$ per cent.)
Silver	$\frac{1}{1000}$

is west-east, curving round to the south. The formation is of the coarse grey granite general throughout the Province, and it is dyked and sliced by quartz veins of the amorphous type, crystals being everywhere rare in Midian (?) The *filons* and *filets*, varying in thickness from eight mètres to a few lines, are so numerous that the whole surface appears to be quartz tarnished by atmospheric corrosion to a dull, pale-grey yellow; while the fracture, sharp and cutting as glass or obsidian, is dazzling and milk-white, except where spotted with pyrites—copper or iron. The neptunian quartz, again, has everywhere been cut by plutonic injections of porphyritic trap, veins averaging perhaps two mètres, with a north-south strike, and a dip of 75° (mag.) west. If the capping were removed, the sub-surface would, doubtless, bear the semblance of a honeycomb.

The Jebel el-Abyaz is apparently the centre of the quartzose outcrop in North Midian (Madyan Proper). We judged that it had been a little worked by the ancients, from the rents in the reef that outcrops, like a castle-wall, on the northern and eastern flanks. There are still traces of roads or paths; while heaps, strews, and scatters of stone, hand-broken and not showing the natural fracture, whiten like snow the lower slopes of the western hill base. They contrast curiously with the hard felspathic stones and the lithographic *calcaires* bear-

ing the moss-like impress of metallic dendrites; these occur in many parts near the seaboard, and we found them in Southern as well as in Northern Midian. The conspicuous hill is one of four mamelons thus disposed in bird's-eye view; the dotted line shows the supposed direction of the lode in the Jibál el-Bayzá, the collective name.



1. The Piton, or smallest of the quartz outcrops.
2. The Jebel el-Abyaz, the main cone and pivot of the group.
3. The crupper of the Jebel el-Abyaz.
4. The Jebelayn el-Marú, or two-headed outcrop, not seen from camp, but bearing 71° and 96° (both mag.) from the main cone.

On the plain to the north of the Jebel el-Abyaz also, I found curdles of porphyritic trap, and parallel trap-dykes, cutting the courses of large-grained grey granite: as many as three outcrops of the former appeared within fourteen yards. This convinced me that the whole of the solid square, thirty kilomètres (six by five), where the quartz emerges, is underlaid by veins and veinlets of the same rock. Moreover, I then suspected, and afterwards ascertained, that the quartz of the Jibál el-Bayzá, as the

Bedawin call this section, is not a local peculiarity. It everywhere bursts, not only the plain between the sea and the coast-range, but the two parallels of mountain which confine it on the east. In fact, throughout our northern march the Arabs, understanding that its object was "Marú," the generic name for quartz,* brought us loads of specimens from every direction. Nothing is easier than to work the purely superficial part. A few barrels of gunpowder and half a dozen English miners, with pick and crowbar, suffice. Even our dawdling, feckless quarrymen easily broke and "spalled" for camel-loading some six tons in one day.

Our short se'nnight was not wasted; yet I had an uncomfortable feeling that the complication of the country called for an exploration of months and not hours. Every day some novelty appeared. The watercourses of the Ghâts or coast-range were streaked with a heavy, metallic, quartzose black sand which M. Marie vainly attempted to analyze. We afterwards found it in almost every Wady, and running north as far as El-'Akabah; whilst, with few exceptions, all our washings of red earth, chloritic sand, and bruised stone, yielded it and it only. It is apparently the produce of granite and syenite, and

* Hence, evidently, the derivation of the "Marwah" hill near Meccah, and the famous "Marwah" gold mine which we shall visit in South Midian. The Arabs here use Jebel el-Marú and Jebel el-Abyaz (plur. Jibál el-Bayzá) synonymously.

it abounds in African Egypt. I was in hopes that tungsten and titaniferous iron would make it valuable for cutlery as the black sand of New Zealand. Experiments in the Citadel, Cairo, produced nothing save magnetic iron with a trace of lead. But according to Colonel Ross, the learned author of "Pyrology, or Fire Chemistry,"* it is iserine or magnetic ilmenite, titaniferous iron-sand, containing eighty-eight per cent. of iron (oxides and sesquioxides), with eleven per cent. of titanic acid.

The Arabs brought in fine specimens of hematite and of copper ore from Wady Gharr or Ghurr, six miles to the south of camp. Here were found two water-pits in a well-defined valley; the nearer some ten miles south-west of the Jebel el-Abyaz, the other about two miles further to the north-west; making a total of twelve. About the latter there was, however, no level ground for tents. A mile and a half walking almost due north led to a veinlet of copper 30 mètres long by 0·30 thick, with an east-west strike, and a dip of 45° south. This metal was also found in the hills to the south. Crystalline pyroxene and crystallized sulphates of lime apparently abound, while the same is the case with carbonate of manganese, and other forms of the metal so common in Western Sinai. Briefly, our engineer came to

* Spon: London, 1875. A book opening a new epoch, and duly neglected.

the conclusion that we were in the very heart of a mining region.

We made a general *reconnaisance* (December 27th) of a place whence specimens of pavonine quartz had come to hand. Following the Wady 'Ifriyá round the north and east of the White Mountain, we fell into the *Wady Simákh* (of "Wild Sumach"), that drains the great gap between the Pinnacles and the Buttresses of the 'Urnub-Tihámah section. After riding some two miles, we found to the south-east fragments of dark, iridescent, and metallic quartz: they emerge from the plain like walls, bearing north-south, with 36° of westing and a westward dip of 15° to 20°—exactly the conditions which Australia seeks, and which produced the huge "Welcome Nugget" of Ballarat. They crop out of the normal trap-dyked grey granite, and select specimens show the fine *panaché* lustre of copper. M. Marie afterwards took from one of the geodes a pinch of powder weighing about half a gramme, and cupelled a bright dust-shot bead weighing not less than two centigrammes. Without further examination he determined it to be argentiferous, when it was possibly iron or antimony. On the other hand, the silver discovered in the *Grand Filon* by so careful and conscientious an observer as Gastinel Bey, and the fact that we are here on the same line of outcrop, and at a horizon three hundred feet lower, are reassuring.

This vein, which may be of great length and puissance, I took the liberty of calling the "Filon Husayn," from the prince who had so greatly favoured the Expedition. Here we had hit upon the *Negros*,* or coloured quartzose formations of Mexico, in which silver appears as a sulphure; and we may expect to find the *Colorado*, or argillaceous, that produces the noble metal in the forms of chlorure, bromure, and iodure. The former appears everywhere in Midian, but our specimens are all superficial, taken *à ciel ouvert*. To ascertain the real value and the extent of the deposits required exposure of the veins at a horizon far lower than our means and appliances allowed us to reach. If the rock prove argentiferous I should hope to strike virgin silver in the capillary or aborescent shape below. Above it, as on the summit of the Jebel el-Abyaz, and generally in the "Marú" hills and hillocks of North Midian, the dull white quartz is comparatively barren; showing specks of copper; crystals of pyrites, the "crow-gold" of the old English miner, and dark dots of various metals which still await analysis.

Thus, I would divide the metalliferous quartzes

* So said the engineer. He relied chiefly upon M. Amedée Burat, p. 229, "Géologie Appliquée" (Paris: Garnier, 1870), who quotes the *compte rendu* of M. Guillemin, C.E. to the Exposition of 1867. The latter gentleman, who probably did not, like the former, place Mexico in South America, makes the metalliferous lands measure four-fifths of the total surface. I am much mistaken if the same is not the case with Midian.

of this North-Midianite region into two chief kinds: those stained green and light blue, whose chief metallic element is copper, with its derivatives; and the iridescent *Negro*, which may shelter the *Colorado*. In South Midian the varieties of quartz are incomparably more numerous, and almost every march shows a new colour or constitution.

About the Jebel el-Abyaz, as in many mining countries, water is a serious difficulty. The principal deposit lies some three miles east of the camping ground in a *Nakb* or gorge, El-Asaybah, offsetting from the great Fiumara, "El-Simákh;" and apparently it is only a rain-pool. Throughout Midian, I may say, men still fetch water out of the rock. M. Philipin, whilst pottering about this place, saw two *Beden* (ibex) with their young, which suggests a permanent supply of drink.*

However that may be, Norton's Abyssinian pumps, for which I had vainly applied at Cairo, would doubtless discover the prime necessary in the Wadys, many of the latter being still damp and muddy. Moreover, the *crible continue à grilles filtrantes*, the invention of MM. Huet and Geyler, introduced, we are told, into the mechanical treatment of metals, a principle which greatly economizes

* In "The Gold-Mines of Midian," p. 171, I erroneously asserted that the Beden does not extend to these mountains. The second Expedition could learn nothing about the stag with large branches vaguely spoken of by the Bedawin.

fluid. Founded upon the fact that sands of nearly the same size, but of different densities, when mixed in liquid and subjected to rapid *vertical* oscillation, range themselves by order of weight, the heavier sinking and not allowing passage to lighter matter, the new sieve offers the advantages of a single and simple instrument, with increased facility for treating poor "dirt." Finally, as I shall show, the country is prepared by nature to receive a tramway; and the distance to the sea does not exceed fourteen miles, liberally computed.*

Either the rain-water affected the health of the party, or it suffered from the excessive dryness and variations of the atmosphere, eight to nine hundred feet above sea-level (aner. 29·10), ranging in the tents between 92° by day and 45° at night, a piercing, killing temperature in the Desert. Moreover, the cold weather is mostly the unwholesome season in hot lands, and *vice versâ:* hence the Arab proverb, *Harárat el-Jebel, wa lá Bard-há* ("The heat of the hills and not their cold"). Old Haji Wali lost his appetite, complained of indigestion, and clamoured to return home; Ahmed Kaptán suffered from *Sulb* ("lumbago") and bad headache; whilst Lieutenant Yusuf was attacked by an ague and fever, which raised the

* When "miles" are given, I mean the statute of 1760 yards as opposed to the geographical; the latter equals 1′ (of a degree) = 1 Italian or Arab = ¼ German = 1¼ Roman = 10 stadia.

mouth thermometer to 102°—103°, calling loudly for aconite. These ailments affected the party more or less the whole way, but it was not pleasant to see them begin so soon. When our work of collecting specimens—three tons from the Jebel el-Abyaz, and three from the Filon Husayn—was finished, I resolved upon returning to the coast and treating our loads at the Sharmá water. We reached the valley mouth on December 30th, and we greatly enjoyed the change from the harshness of the inland to the mildness of the seaboard air.

We stayed at Sharmá, much disliking its remarkably monotonous aspect, for another week, till January 7, 1878. Yule, "the wheel," despite the glorious tree-logs and roaring fires, had been a failure at the White Mountain. The Dragoman had killed our last turkey, and had forgotten to bring the plum-pudding from El-Muwaylah: there was champagne, but that is not the stuff wherewithal to wash down tough mutton. New Year's Day, on the other hand, had all the honours. Its birth was greeted with a flow of whisky-punch, wherein wine had taken the place of water; and we drank the health of his Highness, the Founder of the Expedition, in a bottle of dry Mumm. The evening ended with music and dancing, by way of "praying the Old Year out and the New Year in." Mersál, the Boruji, performed a wild solo on his

bugle; and another negro, Ahmed el-Shinnáwi, played with the *Nái* or reed-pipe one of those monotonous and charming minor-key airs—I call them so for want of a word to express them—which extend from Midian to Trafalgar, and which find their ultimate expression in the lovely Iberian *Zarzuela.** The boy Husayn Genínah, a small cyclops in a brown felt *calotte* and a huge military overcoat cut short, caused roars of laughter by his ultra-Gaditanian style of dancing. I have also reason to suspect that a jig and a breakdown tested the solidity of the plank table, while a Jew's harp represented Europe. In fact, throughout the journey, reminiscences of Mabille and the Music Halls contrasted strongly with the memories of majestic and mysterious Midian. And, to make the shock more violent, some friend, *malè salsus*, sent me copies of the cosmopolitan *Spectator* and the courteous *Mayfair*, which at once became waste paper for Bedawi cartridges.

Our *Rosh há Shanah* ("New Year's Day") was further distinguished by the discovery of a vein and outcrop of metalliferous quartz, about half an hour's walk, and bearing nearly east (80° mag.) from camp. We followed the Wady Sharmá, and found above

* Were I a wealthy man, nothing would delight me more than to introduce London to *La Zarzuela*, the Spanish and Portuguese *opera bouffe*. Sir Julius Benedict tells me that it has reached Paris.

its "gate" the masonry-foundation of a square work; near it lay the graves of the Wild Men, one with the normal awning of palm-fronds *honoris causâ*. There were signs of stone-quarrying, and at one place a road had been cut in the rock. Leaving on the north the left side of the watercourse, with its rushes (*Scirpus*), and huge-headed reeds (*Arundo donax*), its dates and Daums—the two latter often scorched and killed by the careless Bedawi—we struck into a parallel formation, the Wady el Wuday, bone-dry and much trodden by camels. Arrived at the spot, we found that the confused masses of hill, subtending the regular cliff-line of the old coast, are composed of grey granite, seamed with snowy quartz, and cut by the usual bands of bottle-coloured porphyritic trap, which here and there becomes red. Some of the heights are of greenish-yellow chloritic felspar, well adapted for brick-making. The surface of the land is scattered with fragments of white silex and fine red jasper, banded with black oligistic iron: this rock, close, hard, and fine enough to bear cutting, appears everywhere in scatters and amongst the conglomerates. Only one fossil was picked up, a mould so broken as to be quite useless.

We also followed out M. Marie's find, to which he had been guided by a patch of red matter, conspicuous on the road from Tiryam to Sharmá. For forty minutes we skirted the seaward face of the

old cliff, a line broken by many deep water-gashes and buttressed by *Goz*, or high heaps of loose white sand. We then turned eastwards or inland, ascended a *Nakb* ("gorge"), and saw, as before, the corallines and carbonates of lime altered, fused, scorified, and blackened by heated injections; the grey granite scored with quartz veins, running in all rhumbs; and the porphyritic trap forming crests that projected from the sands. The cupriferous stone struck east-west, with a dip to the south; the outcrops, visible without digging, measured fifteen to twenty mètres long, by one to one and a half in breadth.

New Year's Day also restored to us the pup "Páijí." When quite a babe, it had walked up to me in the streets of Cairo, evidently claimed acquaintanceship, and straightway followed me into Shepheard's, where, having a certain sneaking belief in metempsychosis, I provided it with bed and board. During our third march to the White Mountain, being given to violent yelps, which startled both mules and camels, the small thing had been left to walk, and had apparently made friends with an Arab goatherd. After nine days' absence without leave, "Páijí" re-appeared, with dirty rags tied round its bony back and wasted waist, showing an admirable skeleton, and making the most frantic demonstrations of joy. The loss of the poor little brute had affected all our spirits: we thought that the hyenas and the ravens

had seen the last of it; and it received a warm welcome home.

M. Lacaze, unlike the rest, took a violent fancy for the Wady Sharmá: the water-scenery enchanted him. His sketches were almost confined to the palm-growth, and to the greenery so unexpected in arid Midian, where, according to the old and exploded opinion, Moses wrote the Book of Job. The idea of Arabia is certainly not associated with flowing rills, and waving trees, and rustling zephyrs. Every morning I used to awake surprised by the song of the Naiad, the little runnel whimpling down its bed of rushes, stone, and sand; and the response of the palms making music in the land-breeze.

Finally, on New Year's Day, Lieutenant Amir, guided by Shaykh Furayj, and escorted by soldiers and miners, made a three days' trip to the Wady 'Urnub. There he surveyed a large isolated "Marú," or quartz-hill, some twenty-two to twenty-five direct miles south-east of the main outcrop; thus giving a considerable extent to the northern mining-focus. This feature is described as being four or five times larger than the Jebel el-Abyaz (proper); and the specimens of quartz and grey granite proved it to be of the same formation. It showed a broken outline, with four great steps or dykes, which had apparently been worked. In the basal valleys, and spread over the land generally, was found a heavy

yellow sand, calcareous and full of silex: the guide called it *Awwal Hismá* (the "Hismá frontier").

Our travellers returned by a parallel line, southerly and more direct. In the Wady 'Urnub, the Ma'ázah of the Salímát clan received them with apparent kindness, inwardly grumbling the while at their land being "spied out;" and they especially welcomed Furayj, who, being a brave soldier, is also noted as a peacemaker. All the men were armed, and wore the same dress as the Huwaytát; like these, they also breed camels and asses—that is, they are not cow-Arabs. Certain travellers on the Upper Nile have distributed the Bedawin into these two groups; add horse-Arabs and ass-Arabs, and you have all the divisions of the race as connected with the so-called "lower animals." About three hours (= eleven miles) from Sharmá camp, some pyramids of sand were pointed out in the Wady Rátiyah: the Bedawin call one of them the *Goz el-Hannán* ("Moaning Sand-heap"). They declare that when the Hajj-caravan passes, or rather used to pass, by that way, before the early sixteenth century, when Sultán Selim laid out his maritime high-road, a *Naubah* ("orchestra") was wont to sound within its bowels. This tale, which, by-the-by, is told of two other places in Midian, may have been suggested by the *Jebel el-Nákús* ("Bell Mountain") in Sinai-land; but as the Arabs perform visitation

and sacrifice to the "Moaning-heap," the superstition probably dates from ancient days. Ruins are also reported to exist in the Jebel Fás, the southern boundary of the 'Urnub valley; and, further south, in the Jebel el-Harb, I was told by some one whose name has escaped me, of a dolmen mounted upon three supports. Lieutenant Amir also brought copper ore from the Wady 'Urnub, and from the Ras Wady el-Mukhbir specimens of a metal which the Arabs use as a *kohl* or collyrium. It proved, however, iron, not antimony; and the same mistake has been made in the Sinaitic Peninsula.

At Wady Sharmá we rigged up, under the superintendence of M. Philipin, a trough and a cradle for washing the black sands, the pounded quartz of the Jebel el-Abyaz, and the red sands; these latter had shown a trace of silver ($\frac{1}{10000}$) to the first Expedition. We mixed it with mercury and amalgamed it in goatskins; the men moved them to and fro; but, of course, the water evaporated, and the mass speedily became dry. The upper or superficial white yielded only, as far as our engineer could judge, a little copper and bright knobs of pyrites. The *Negros*, or iridized formations, of the "Filon Husayn" on a lower horizon, gave the dubious result already alluded to. All the experiments were conducted in the rudest way. Of course, a quantity of metal may have escaped notice; and a

fair proportion of the powdered stone was reserved for scientific treatment in Europe.

During our first trip we had found, upon the right jaw of the Wady Sharmá, a ruined village of workmen, probably slaves, whose *bothans* measured some twelve feet by eight. They differ from the *Nawámis*, or "mosquito-huts," as the word is generally translated, only in shape—the latter are circular, with a diameter of ten feet—and they perfectly resemble the small stone hovels in the Wady Mukattab, which Professor Palmer ("Desert of the Exodus," p. 202) supposes to have been occupied by the captive miners and their military guardians. This time we ascended the coralline ridge which forms the left jamb. At its foot a rounded and half-degraded dorsum of stiff gravel, the nucleus of its former self, showed a segment of foundation-wall, and the state of the stone suggested the action of fire. Possibly here had been a furnace. The summit also bears signs of human occupation. The southern part of the buttress-crest still supports a double concentric circle with a maximum diameter of about fifteen feet; the outside is of earth, apparently thrown up for a rampart behind a moat, and the inside is of rough stones. Going south along the dorsum, we found remains of oval foundations; a trench apparently cut in the rock, pottery often an inch and more thick, and broken handmills made of

the New Red Sandstone of the Hismá. Finally, at the northernmost point, where the cliff-edge falls abruptly, with a natural arch, towards the swamp, about one kilomètre broad at the *Báb*, we came upon another circle of rough stones. We were doubtful whether these rude remains were habitations or old graves; nor was the difficulty solved by digging into four of them: the pick at once came upon the ground-rock. Hitherto these ruins have proved remarkably sterile; the only products were potsherds, fragments of hand-mills, and a fine lump of white marble (*Rukhám*), supposed to come from the Jebel el-Lauz.

Amongst our followers was a "Kázi of the Arabs," one Jabr bin 'Abd el-Nabi, who is a manner of judge in civil, but not in criminal matters. Before the suit begins the plaintiff, or his surety, deposits a certain sum in coin, corn, or other valuables, and lays his damages at so much. The defendant, if inclined to contest the claim, pays into court the disputed amount, and the question is settled after the traditional and immemorial customs of the tribe. This man, covetous as any other disciple of Justinian, was exceedingly anxious to obtain the honorarium of a Shaykh, and he worked hard to deserve it. Shortly before our departure from Sharmá, he brought in some scoriæ and slag, broken and streaked with copper—in fact, *ekvolades*. They

are thinly scattered over the seaward slope of the left jaw, where the stone nowhere shows a trace of the mineral *in situ.* As, however, the Expedition had found native copper in three places, more or less near the Jebel el-Abyaz, it was decided that the ore had been brought from the interior.

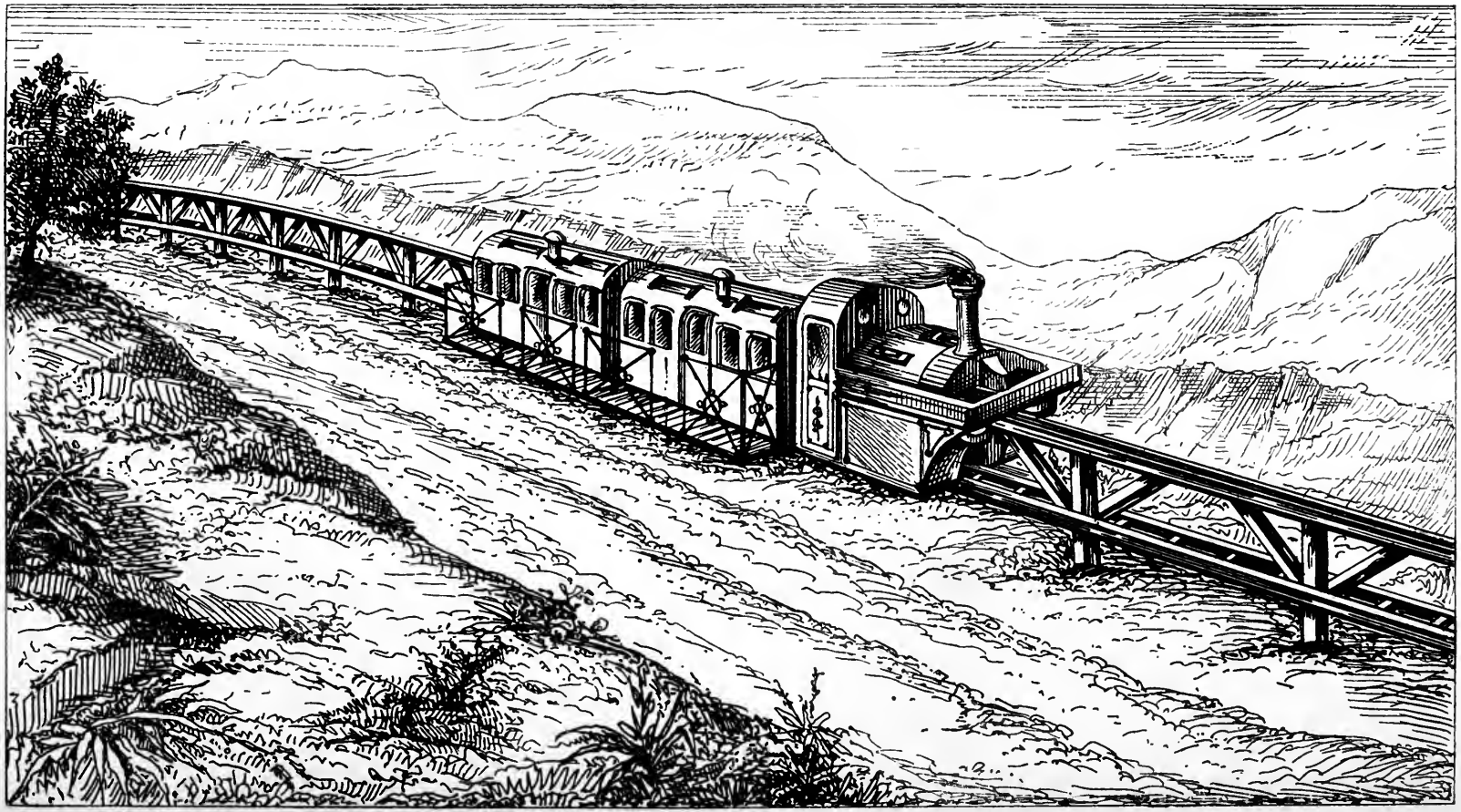
We were again much puzzled concerning the form of industry which gave rise to such a large establishment as Sharmá. Agriculture was suggested and rejected ; and we finally resolved that it was a branch-town that supplied ore to the great smelting-place and workshop of the coast, 'Aynúnah, and possibly carbonate of lime to serve for flux.

The distance along the winding Wady, between the settlement and the sea westward, where the watercourse ends in sand-heaps, is seven to eight miles, and the coast shows no sign of harbour or of houses. About three miles, however, to the north-west is the admirable Bay of 'Aynúnah, unknown to the charts. Defended on both sides by sandspits, and open only between the west and the north-west, where reefs and shoals allow but a narrow passage, its breadth across the mouth from east to west measures at least five thousand mètres, and the length inland, useful for refuge, is at least three thousand. At the bottom of this noble *Límán,* the *Kolpos* so scandalously abused by the ancients, are three sandy buttresses metalled with water-

rolled stones, and showing traces of graves. Possibly here may have been the site of an ancient settlement. The Arabs call the southern anchorage, marked by a post and a pit of brackish water, El-Musaybah or Musaybat Sharmá. Its only present use seems to be embarking bundles of rushes for mat-making in Egypt. The north-eastern end of the little gulf is the Gád (Jád), or Mersá of El-Khuraybah, before described as the port of 'Aynúnah.

At the Musaybah I stationed our tender, the Sambúk *El-Musahhil*, which carried our heavy goods, specimens by the ton; rations and stores; forge, planks, and crowbars. The sailors lost no time in showing their rapacity. Every day they dunned us for tobacco; and when we made a counter-demand for the excellent fish which was caught in shoals, they simply asked, "What will you pay for it?" I imprudently left my keg of specimen-spirits on board this ignoble craft, and the consequence was that it speedily became bone-dry. The Musaybah bight is a direct continuation of the Wady el-Melláh, which, joining that of El-Maka'dah, runs straight up to the Jebel el-Abyaz and to the Filon Husayn. These metalliferous quartzes cannot be further from the coast than a maximum distance of fourteen miles, and the broad, smooth watercourse, with its easy gradients, points it out as the site of the future tramway. I should prefer a simpler form of the "Pioneer Steam-

THE PIONEER LOW ROAD LINE FOR COAST OR COUNTRY ROADS.



[*To face p.* 71.

Caravan or Saddleback-Railway System," patented by Mr John L. Haddan, C.E., formerly of Damascus.* He recommends iron as the best material for the construction; and the cost, delivered at Alexandria, would *not* exceed £1200, instead of £3000 to £20,000 per kilomètre, including the rolling stock. As the distance from the port is nothing, £300 per kilomètre would be amply sufficient for "fixing up;" but I should reduce the price to £500 for the transport of some 50 tons per diem. By proper management of the rails or the main rail, it would be easy for trained camels to draw the train up the Wady; and the natural slope towards the sea would give work only to the brake where *derailments* are not possible.

At Sharmá we saw the crescent, when the Englishmen turned their money in their pockets, and the Egyptian officers muttered a blessing upon the coming moon. Every day we waxed more weary of the place; possibly the memories of the first visit were not pleasant. Many in camp still suffered; and an old Bedawi, uncle to Shaykh 'Alayan, died and was buried at 'Aynúnah. The number of servants also made us uncomfortable. The head Dragoman, whose memory was confined

* See *Le Pionnier, Chemin de Fer Abyssinien d'après les desseins de M. J. L. Haddan.* Another valuable form is "The Economical" (Mr. Russell Shaw).

to his *carnet*, forgot everything; and, had we trusted to him, half the supplies would have returned to Suez, probably for the benefit of his own shop at Zagázig. I soon found his true use, and always left him behind as magazine-man, storekeeper, and guardian of reserve provisions. He was also a dangerous, mischief-making fellow; and such men always find willing ears that ought to know better. Petros, the Zante man, was the model of a *tipotenios* (an "anybody"), who seemed to have been born limp, without bones or brains. He was sent back as soon as possible to Cairo. The worst point of these worthies was, that they prevented, for their own reasons, the natives working for us; while they preferred eternal chatter and squabbles to working themselves. So the Greek element was reduced to George the cook, a short, squat, unwashed fellow, who looked like a fair-Hercules out of luck; who worked like three, and who loudly clamoured for a revolver and a bowie-knife. His main fault, professionally speaking, was that he literally drenched us with oil till the store happily ran out. His complexion was that of an animated ripe olive, evidently the result of his own cookery. His surprise when I imperatively ordered plain boiled rice, instead of a mess dripping with grease; and when told to boil the fish in sea water and to serve up the *bouillon*, was high comedy. Doubtless he has often, since

his return, astounded his "Hellenion" by describing our Frankish freaks and mad eccentricities.

The stationary camp also retained Lieutenant Yusuf and MM. Duguid and Philipin, with thirteen soldiers and sixteen miners. The six camels were placed under Gabr, *Kázi el-'Orbán;* and all the stay-behinds were charged with washing the several earths, with scouring the country for specimens, and with transporting sundry tons of the black sand before mentioned. Old Haji Wali, probably frightened by the Arabs, and maddened by the idea that, during his absence in the thick of the cotton season, the Fellahs of Zagázig would neglect to pay their various debts, began to "malinger" with such intensity of purpose, that I feared lest he would kill himself to spite us. The venerable Shylock, who ever pleaded poverty, had made some £300 by lending a napoleon, say, on January 1st, which became a sovereign on February 1st; not to speak of the presents and "benevolences" which the debtor would be compelled to offer his creditor. So he departed for El-Muwaylah, whence some correspondent had warned him that a pilgrim-boat was about to start; declaring that he was dying, and trotting his mule as hard as it would go, the moment a safe corner was turned. He stayed two days on board the gunboat, and straightway returned to Egypt and the cotton season:—we had

the supreme satisfaction, however, to hear that he had gone through the long quarantine at Tor. Yet after our return he reproached me, with inimitable coolness and effrontery, for not having behaved well to him.

On the morning of January 7th, a walk of two hours and twenty minutes (= seven miles) northwards, and mostly along the shore of the noble "Musaybat Sharmá," transferred us to well-remembered 'Aynúnah. The sea in places washed over slabs of the fine old conglomerates which, in this country, line the banks and soles of all the greater Wadys: these are the *Cascalho* of the Brazil, a rock which is treated by rejecting the pebbles and by pounding the silicious paste. The air was softer and less exciting than that of Sharmá; and, although the vegetation was of the *crapaud mort d'amour* hue—here a sickly green, there a duller brown than April had showed—the scene was more picturesque, the "Gate" was taller and narrower, and the recollection of a happy first visit made me return to it with pleasure. Birds were more abundant: long-shanked water-fowl with hazel eyes; red-legged rail; the brown swallow of Egypt; green-blue fly-catchers; and a black muscivor, with a snowy-white rump, of which I failed to secure a specimen. We also saw the tern-coloured plover, known in Egypt as *Domenicain*, and red kingfishers. The game species were

fine large green mallard; dark pintail; quail, and red-beaked brown partridge with the soft black eye.

New formations began to develop themselves, and the sickly hues of the serpentines and the chlorites, so rich in the New World, appeared more charming than brow of milk or cheek of rose.* There were few changes. A half-peasant Bedawi had planted a strip of barley near the camping-place; the late floods had shifted the course of the waters; more date-trees had been wilfully burned; a big block of quartz, brother to that which we had broken, had been carried off; and where several of the old furnaces formerly stood, deep holes, dug by the "money-hunter," now yawned. I again examined the two large fragments of the broken barrage, and found that they were of uncut stone, compacted with fine cement, which contained palm-charcoal.

At 'Aynúnah we gave only one day to work. While M. Lacaze sketched the views, we blasted with gunpowder more than half charcoal the *Ma'dan el-Fayrúz* ("turquoise mine"), as the Arabs called it, on the right side of the Wady. The colour and texture were so unlike the true *lapis Pharanitis* that we began to suspect, and presently we ascertained from the few remaining fragments, it had been

* Chloritic slate is the matrix of gold in the Brazil and in Upper Styria.

worked for copper,—the carbonates and the silicates which characterize Cyprus. Presently good specimens of the latter were brought to us from the Jebel el-Farà' by a Bedawi pauper, 'Ayd of the Tagaygát-Huwaytát tribe. These half-naked shepherds and goatherds, who know every stone in the land, are its best guides; not the Shaykhs, who, as a rule, see little or nothing outside their tents. From our camp the direction, as reported by Ahmed Kaptán, was 102° (mag.), and the distance three miles. I afterwards sent Lieutenant Yusuf from El-Muwaylah to make a detailed plán.*

We also dug in an old pit amongst the Christian graves to the south-east of the camp, and below the left jamb of the "Gate." Here also the Bedawin had been at work; and, when unable to work deep enough, they told us wonderful tales of an alabaster slab, which doubtless concealed vast treasures. In Arabia, as in Africa, one must look out for what there is not, as well as for what there is. After spending a morning in sinking a twelve-feet shaft, we came upon a shapeless coralline-boulder, which in old times had slipped from the sea-face of the cliff to the left of the valley. I ascended this height, and saw some stones disposed by the hand of man; but there were no signs of a large slave-miner settlement like that on the other side of the *Báb*.

* Chap. IX.

In the afternoon Mr. Clarke led a party of quarrymen across the graveyards to El-Khuraybah, the seaport of 'Aynúnah, and applied them to excavating the floor of a cistern and the foundations of several houses; a little pottery was the only result. It was a slow walk of forty minutes; and thus the total length of the aqueducts would be three miles, not "between four and five kilomètres." I had much trouble and went to some expense in sending camels to fetch a "written stone" which, placed at the head of every newly buried corpse, is kept there till another requires it. It proved to be a broken marble pillar with a modern Arabic epitaph. In the Gád el-Khuraybah, the little inlet near the *Gumruk* ("custom-house"), as we called in waggery the shed of palm-fronds at the base of the eastern sandspit, lay five small Sambúks, which have not yet begun fishing for mother-of-pearl. Here we found sundry tents of the Tagaygát-Huwaytát, the half Fellahs that own and spoil the once goodly land; the dogs barked at us, but the men never thought of offering us hospitality. We had an admirable view of the Tihámah Mountains—Zahd, with its "nick;" the parrot-beak of Jebel el-Shátí; the three perpendicular Pinnacles and flying Buttresses of Jebel 'Urnub; the isolated lump of Jebel Fás; the single cupola of Jebel Harb; the huge block of Dibbagh, with its tall truncated tower; the little Umm Jedayl,

here looking like a pyramid; and the four mighty horns of Jebel Shárr.

I left 'Aynúnah under the conviction that it has been the great Warshah ("workshop") and embarking-place of the coast-section extending from El-Muwaylah to Makná; and that upon it depended both Wady Tiryam and Sharmá, with their respective establishments in the interior. Moreover, the condition of the slag convinced me that iron and the baser metals have been worked here in modern times, perhaps even in our own, but by whom I should not like to say.

CHAPTER III.

BREAKING NEW GROUND TO MAGHÁIR SHU'AYB.

On January 9th we left 'Aynúnah by the Hajj-road, and passed along the Quarry Hill visited during my first journey: the crest has old cuttings and new cuttings, the latter still worked for Bedawi head-stones. The dwarf pillar with the mysterious cup is reflected by the Nubians, who hollow out the upper part of the stela to a depth of eight or ten inches without adding any ornament. Hence, perhaps, the Sawahíli custom of the inserted porcelain-plate.

After issuing from the stony and sandy gorge which forms the short cut, we regained the Hajj-road, and presently sighted a scene readily recognized. Fronting us, the northern horizon was formed by the azure wall of Tayyib Ism,* the

* Not *Tayyibat Ism*, as I wrongly wrote in "The Gold Mines of Midian," misled by the Hydrographic Chart. None of the Bedawin could explain the origin of the flattering title.

"Mountain of the Good Name," backed by the far-grander peaks of Jebel Mazhafah: the latter rises abruptly from the bluer Gulf of El-Akabah, and both trend to their culminating points inland or eastward. On our right followed the unpicturesque metalliferous heap of Jebel Zahd or 'Aynúnah Mountain, whose *Brèche de Roland* seems to show from every angle; its chocolate-coloured heights contain, they say, furnaces and "Mashghal," or *ateliers*, where the Marú ("quartz") was worked for ore. In places it is backed by the pale azure peaks of Jebel el-Lauz. This "Mountain of Almonds" is said to take its name from the trees, probably bitter, which flourish there as within the convent-walls of St. Catherine, Sinai. They grow, I was told, high up in the clefts and valleys; and here, also, are furnaces both above and below. Of its white, sparkling, and crystallized marble, truly noble material, a tombstone was shown to me; and I afterwards secured a slab with a broken Arabic inscription, and a ball apparently used for rubbing down meal. The Lauz appears to be the highest mountain in Northern Midian-land; unfortunately, it is to be reached only *viâ* Sharaf, two long stations ahead, and I could not afford time for geographical research to the prejudice of mineralogical. Its nearer foot-hill is the Jebel Khulayf; and this feature contains, according to the Bedawin, seven wells or pits whose bottom cannot

be seen. Between the "Almond Block" and its northern continuation, Jebel Munífah, we saw a gorge containing water, and sheltering at times a few tents of the 'Amírát Arabs; in the same block we also heard of a *Sarbút* or rock said to be written over.

The regular cone of El-Maklá ends the prospect in the north-eastern direction. Looking westward, we see the ghastly bare and naked Secondary formation, the *Rughám* of the Bedawin, not to be confounded with *Rukhám* ("alabaster or saccharine marble"). We afterwards traced this main feature of the 'Akabah Gulf as far south as the Wady Hamz. It is composed of the sulphates of lime—alabaster, gypsum, and the plaster with which the Tertiary basin of Paris supplies the world; and of the carbonates of lime—marble, chalk, kalkspar, shells, and eggs. The broken crests of the Jibál el-Hamrá, the red hills backing Makná,* and the jagged black peaks of their eastern parallel, the Kalb el-Nakhlah, look like plutonic reefs or island-chains emerging from the Secondary sea. The latter, whose bleached and skeleton white is stained, here and there, by greenish-yellow sands, chlorite and serpentine, stands boldly out from the chaos of purpling mountains composing Sinai, and ending southwards in the azure knobs of three-headed Tírán Island.

* "The Gold-Mines of Midian," Chap. XII.

The country, in fact, altogether changed: quartz had disappeared, and chlorite had taken its place.

We passed the night at El-'Usaylah, a *Ghadir* (or "hollow") without drainage, which the sinking of water cakes with mud and covers with an irregular circle of salsolaceous trees, a patch of dark metallic green. This "'Usaylah" is eaten by camels, but rejected by mules. Here our post reached us from Suez on the seventh day, having started on the 2nd inst. A dollar was offered to the Bedawi, who eyed the coin indignantly, declaring that it ought to be a *ginni* (guinea). I had also given him some tobacco, and repented, as usual, my generosity.

Next day we finished the last and larger part of the second pilgrim-stage from El-Muwaylah. Our Arabs had been "dodging;" and, much disappointed about converting a two days' into a three days' march, they punished us by feeding their camels on the road, and by not joining us till the evening. As before, there was no game till we approached the springs; yet tufts and scatters of tamarisks, Samur (*Inga unguis*) and Arák (*Salvadora*), looked capable of sheltering it. And now, beyond the level and monotonous Desert, we began to see our destination;—palms and tufty trees at the mouth of a masked Wady. This watercourse runs between a background of reddish-brown rock, the foot-hills and subranges of the grand block, "El-Zánah," to the north;

and a foreground of pale-yellow, stark-naked gypsum, apparently tongue-shaped. Above the latter tower two sister-quoins of ruddy material, the Shigdawayn, to which a tale hangs.

Presently we fell into and ascended the great Wady 'Afál, which begins in the Hismá, or Red Region, east of the double coast-range. After receiving a network of Secondary valleys that enable it to flow a torrent, as in France, every ten to twelve years, it falls into the Mínat el-'Ayánát, a little port for native craft, which will presently be visited. We left this Wady at a bend, some two hundred mètres wide, called the "Broad of the Jujube," from one of the splendid secular trees that characterize North Midian. Near the camping-ground we shall find another veteran Zizyphus, whose three huge stems, springing from a single base, argue a green old age. Here both banks of the *Fiumara* are lined with courses of rough stone, mostly rounded and rolled boulders, evidently the ruins of the water-conduits which served to feed the rich growth of the lower 'Afál. The vegetation of the gorge-mouth developed itself to dates and Daums, tamarisks and salsolaceæ, out of which scuttled a troop of startled gazelles. We turned the right-hand jamb of the "Gate," and found ourselves at the water and camping-ground of Magháir Shu'ayb.

The general appearance of the station-basin is

novel, characteristic, and not without its charms, especially when the sunset paints the plain with the red, red gold, and washes every barren peak with the tenderest, loveliest rosy pink. Under an intensely clear sapphire-coloured sky rises a distant rim of broken and chocolate-coloured trap-hills, set off by pale hillocks and white flats of gypsum, here and there crystallized by contact with the plutonics. The formation mostly stands up either in stiff cones or in long spines and ridges, whose perpendicular wall-like crests are impossible to climb. The snowy cliffs rest upon shoulders disposed at the "angle of rest," and the prevailing dull drab-yellow of the base is mottled only where accidental fracture or fall exposes the glittering salt-like interior. The gashes in the flank made by wind and rain disclose the core—grey granite or sandstone coloured by manganese. The greater part of the old city was built of this alabaster-like * material. When new, it must have been a scene in fairy-land; Time has now degraded it to the appearance and the consistence of crumbling salt. The quoin-shaped hills of the foreground, all uptilted and cliffing to the north, show the curious mauve and red tints of the many-coloured clays called in the Brazil *Tauá*. Even the palms are peculiar. Their tall, upright crests of

* The so-called Oriental, stalactitic, or variegated alabaster of Upper Egypt was nowhere hit upon.

lively green fronds, their dead-brown hangings, and their trunks charred black by the careless Bedawi, form a quaint contrast with the genteel, nattily dressed, and cockneyfied brooms of Egypt and the Hejaz. And that grandeur may not be wanting to the view, on the east rise the peak and pinnacles of the Almond Mountain (Jebel el-Lauz), whilst northwards the Jebel el-Zánah, a huge dome, forms the horizon.

This place, evidently the capital of Madyan Proper, is the Μαδιάμα which Ptolemy (vi. 7) places amongst his "Mesogeian towns" in north lat. 28° 15′;* and it deserves more than the two pages of description which Rüppell bestowed upon it.† We will notice its natural features before proceeding to the remains of man. Here the Wady 'Afál takes the name of "El-Bada'." Sweeping from west to east, it is deflected to a north-south line, roughly speaking, by the gate of the Shigdawayn, twin-hills standing nearly east and west of one another. Now become a broad, well-defined, tree-dotted bed, with stiff silt banks, here and there twenty to twenty-five feet high, it runs on a meridian for about a mile,

* The Ptolemeian parallel is nearly right; the place must not be confounded with Modíana or Modoûna (*ibid.*), a coast-settlement in north lat. 27° 45′, between Onne and the Hippos Mons, Monte Cavallo.

† I have no wish to criticize my able predecessor. His map, all things considered, is a marvel of accuracy; and the high praise of Wellsted (ii. 148) only does it justice.

including the palm-orchard and the camping-ground. It then turns the west end of the Jebel el-Safrá, a mass of gypsum on the left bank, and it bends to the east of south, having thus formed a figure of Z. After escaping from the imprisoning hills, the *Fiumara* bed, now about three-quarters of a mile broad, is bisected longitudinally by a long and broken lump of chloritic or serpentine sandstone; and rises in steps towards the right bank, upon which the pilgrims camp. Reaching the plain, the Wady flares out wildly, containing a number of riverine islands, temporary, but sometimes of considerable size. It retains sufficient moisture to support a clump of palms—that which we saw from afar;—it bends to the south-east, and, lastly, it trends seaward.

The "Water of Bada'" springs from the base of the hill El-Safrá, oozing out in trickling veins bedded in soft dark mud. It can be greatly increased by opening the fountains, and economized by a roofing of mat: we tried this plan, which only surprised the unready Arab. After swinging to the left bank and running for a few yards, it sinks in the sand; yet on both sides there are signs of labour, showing that, even of late years, the valley has seen better days. Long leats and watercourses have been cut in the clay, and are still lined with the white-flowered "Rijlah," whose nutritive green leaf

is eaten, raw or boiled, by the Fellahs of Egypt: the wild growth, however, is mostly bitter. On both sides are little square plots fenced against sheep and goats by a rude *abattis* of stripped and dead boughs, Jujube and acacia. Young dates have been planted in pits; some are burnt and others are torn; for the Bedawi, mischievous and destructive as the Cynocephalus, will neither work nor allow others to work. The *'Ushash* or frond-and-reed huts, much like huge birds'-nests, are scattered about in small groups everywhere except near the water. Wherever a collection of bones shows a hyena's lair, the hunters have built a screen of dry stone.

In fact, Magháir Shu'ayb was spoken of as an Arab "Happy Valley." But its owners, the Masá'íd, a spiritless tribe numbering about seventy tents, are *protégés* of the Tagaygát. This Huwayti clan is on bad terms with Khizr and 'Brahim bin Makbúl; and the brother Shaykhs of the 'Imrán, recognized by the Egyptian Government, claim the land where they have only the right of transit. Bedawi clans and sub-tribes always combine against stranger families; but when there is no foreign "war," they amuse themselves with pilling and plundering, sabring and shooting one another. I believe that the palms were roasted to death by the 'Imrán, although the Shaykhs assured me that the damage was done this year, by a careless Mas'údi when cooking his food.

The tribe appears to be Egypto-Arab, like the Huwaytát and the Ma'ázah, having congeners at Ghazzah (Gaza) and at Ras el-Wady, near Egyptian Tell el-Kebir. Consequently Rüppell is in error when he suspects that *die Musaiti* are *ein Judenstamm.* The unfortunates fled towards the sea and left the valley desolate about seven months ago. Their Shaykh is dead, and a certain Agíl bin Muhaysin, a greedy, foolish kind of fellow, mentioned during my First Journey, aspires to the dignity and the profit of chieftainship. He worried me till I named a dog after him, and then he disappeared.

The ruins, of large extent for North Midian, and equal to those of all the towns we have seen put together, begin with the palm-orchard on the left bank. The Jebel el-Safrá shows the foundations of what may have been the *arx.* It is a double quoin, the taller to the south, the lower to the north, and both bluff in the latter direction. The dip is about 45°; the upper parts of the dorsa are scatters of white on brown-yellow stone; and below it, where the surface has given way, appear mauve-coloured strata, as if stained by manganese. Viewed in profile from the west, the site of El-Muttali',* as the Arabs call the *hauteville,* becomes a tall, uptilted

* The "Muttali'" (high town) when small is termed a Burj, *pyrgos,* tower, Pergamus (?)

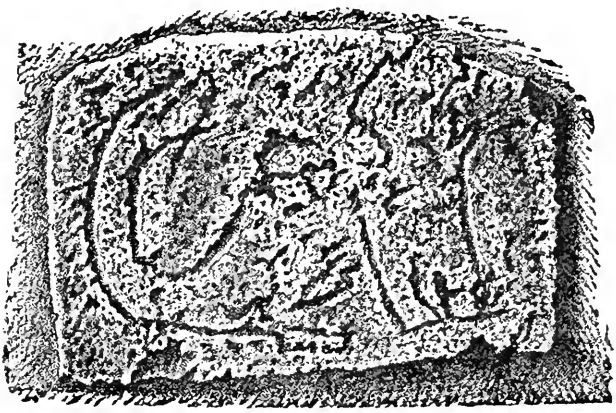
wedge; continued northwards by the smaller feature, and backed by a long sky-line, a high ridge of plaster, pale coloured with glittering points.

This isolated "Yellow Hill," a "horse" in Icelandic parlance, rising about two hundred feet above the valley-sole, is separated by a deep, narrow gorge from the adjacent eastern range. The slopes, now water-torn and jagged, may formerly have declined in regular lines, and evidently all were built over to the crest like those of Syrian Safet. The foundations of walls and rock-cut steps are still found even on the far side of the eastern feature. The knife-back is covered with the foundations of what appears to be a fortified Laura or Palace; a straight street running north-south, with 5° west (mag.). It serves as base for walls one mètre and a half thick, opening upon it like rooms: of these we counted twenty on either side. At the northern end of the "horse," which, like the southern, has been weathered to a mere spur, is a work composed of two semicircles fronting to the north and east. A bastion of well-built wall in three straight lines overhangs the perpendicular face of the eastern gorge: in two places there are signs of a similar defence to the south, but time and weather have eaten most of it away. The ground sounds hollow, and the feet sink in the crumbling heaps: evidently the whole building was of *Rughám* (gypsum); and in the process of decay

it has become white as blocks of ice, here and there powdered with snow.

On the narrow, flat ledge, between the western base of this *Safrá* and the eastern side of the Bada' valley, lie masses of ruin now become mere rubbish; bits of wall built with cut stone, and water-conduits of fine mortar containing, like that of the Pyramids, powdered brick and sometimes pebbles. We carried off a lump of sandstone bear-

"ST. GEORGE AND THE DRAGON" (?), MAGHÁIR SHU'AYB.



ing unintelligible marks, possibly intended for a man and a beast. We called it "St. George and the Dragon," but the former is afoot—possibly the Bedawin stole his steed. There was a frustum or column-drum of fine white marble, hollowed to act as a mortar; like the Moslem headstone of the same material, it is attributed to the Jebel el-Lauz, where ancient quarries are talked of. There were also

Makrákah ("rub-stones") of close-grained red syenite, and fragments of the basalt handmills used for quartz-grinding. Part of a mortar was found, made of exceedingly light and porous lava.

South-east of the *hauteville* falls in the now rugged ravine, *Khashm el-Muttali'*, "Snout of the high" (town). It leads to the apex of the coralline formations, scattered over with fragments of gypsum, here amorphous, there crystalline or talc-like, and all dazzling white as powdered sugar. Signs of tent-foundations and of buildings appear in impossible places; and the heights bear two *Burj* or "watch-towers," one visible afar, and dominating from its mamelon the whole land. The return to the main valley descends by another narrow gorge further to the south-east, called *Sha'b el-Darak*, or "Strait of the Shield:" the tall, perpendicular, and over-hanging walls, apparently threatening to fall, would act *testudo* to an Indian file of warriors. High up the right bank of this gut we saw a tree-trunk propped against a rock by way of a ladder for the treasure-seeker. The *Sha'b*-sole is flat, with occasional steps and overfalls of rock, polished like mirrors by the rain-torrents; the mouth shows remains of a masonry-dam some fourteen feet thick by twenty-one long; and immediately below it are the bases of buildings and watercourses.

Walking down the left bank of the great Wady,

and between these secondary gorges that drain the "Yellow Hill," we came upon a dwarf mound of dark earth and rubbish. This is the *Siyághah* ("mint and smiths' quarter"), a place always to be sought, as Ba'lbak and Palmyra taught me. Remains of tall furnaces, now level with the ground, were scattered about; and Mr. Clarke, long trained to find antiques, brought back the first coins picked up in ancient Midian. The total gathered, here and in other parts of Magháir Shu'ayb, was 258, of which some two hundred were carried home untouched; the rest, treated with chloritic and other acids, came out well. One was a silver oval which may or may not have been a token. Eleven were thick discs, differing from the normal type; unfortunately the legends are illegible. The rest, inform bits of green stuff, copper and bronze, were glued together by decay, and apparently eaten out of all semblance of money until the verdigris of ages is removed.

All are cast like the Roman "as", before B.C. 217, and some show the tail. The distinguishing feature is the human eye; not the *outa* of Horus,* so well known to those who know the Pyramids, but the last trace of Athene's profile. Two are Roman: a Nerva with S.C. on the reverse; and a Claudius Augustus, bearing by way of countermark a depressed ob-

* The *Masha'b* or "camel-stick" of all Arabia is that carried by the Osiris (mummy), and its crook is originally the jackal-headed Anubis.

long, of $\frac{20}{100}$ by $\frac{14}{100}$ (of inch), with a raised figure, erect, draped, and holding a sceptre or thyrsus. There is also a Constantius struck at Antioch. The gem of the little collection was a copper coin, thinly encrusted with silver, proving that even in those days the Midianites produced "smashers": similarly, the Egyptian miners "did" the Pharaoh by inserting lead into hollowed gold. The obverse shows the owl in low relief, an animal rude as any counterfeit presentment of the Θεὰ γλαυκῶπις Ἀθήνη ever found in Troy. It has the normal olive-branch, but without the terminating crescent (which, however, is not invariably present) on the proper right, whilst the left shows a poor imitation of the legend AΘE(NH). The silvering of the reverse has been so corroded that no signs of the goddess's galeated head are visible. My friend, Mr. W. E. Hayns, of the Numismatic Society, came to the conclusion that it is a barbaric Midianitish imitation of the Greek tetradrachm, which in those days had universal currency, like the shilling and the franc. The curious bits of metal, which also bear the owl, may add to our knowledge of the Nabathæan coins, first described, I believe, by the learned Duc de Luynes.*

Another interesting "find" was a flat-bottomed, thick-walled clay crucible of small size ($2\frac{10}{16}$ inches

* The collection has been submitted to Mr. R. Stanley Poole, who kindly offered them for inspection to the Numismatic Society of London (Nov. 21, 1878).

high by $2\frac{4}{16}$ inches across the mouth), exactly resembling the article picked up at Hamámát. The latter, however, contains a remnant of litharge, possibly showing that the old Egyptians worked the silver, which may have been supplied by the *Colorado* quartz.

I would here crave leave to make a short *excursus* to the ancient Ophirs of Egypt Proper, where, we are told by an inscription in the treasury of Ramses the Great (fourteen centuries before Christ), the gold and silver mines yielded per annum a total of 32,000,000 minæ = £90,000,000. Dr. H. Brugsch-Bey first drew attention to Hamámát, where, as he had learned from Diodorus (i. 49—iii. 12) and from the papyri, the precious metals had been extensively worked. The "Wells of Hamámát" lie between Keneh on the Nile and Kusayr (Cosseir) on the Red Sea; and the land is held by the Abábdah Arabs, who have taken charge, from time immemorial, of the rich commercial caravans. The formation of the country much resembles that of Midian; and the metalliferous veins run from north-east to south-west. In Arabia, however, the *filons* are of unusual size; in Africa they are small, the terminating fibrils, as it were, of the Asiatic focus; while the Dark Continent lacks that wealth of iron which characterizes the opposite coast.

By the courtesy of Generals Stone and Purdy

I was enabled, after return to Cairo in May, 1878, to inspect the collection. Admirably arranged in order of place, and poor as well disposed, it is, nevertheless, useful to students; and it was most interesting to us. The only novelty is asbestos produced in the schist: the raw material is now imported by the United States, and used for a variety of purposes. It is said to exist in Mount Sinai; we found none in Midian, where the schist formations are of great extent, probably because we did not look for it. The collection was made by Colonel Colston; and Mr. L. H. Mitchell, a mining engineer attached to the Egyptian Staff, spent several weeks spalling sundry tons of quartz. After finding a speck of gold, the work was considered to be done. General Stone, however, sensibly deprecated any attempt to exploit the minerals: the country lacks wood and water, and the expense of camel-transport from Hamámát to Kusayr, and thence in ships to Suez, would swallow up all the profits.

That Egypt was immensely rich in old days we know from several sources. Appian tells us that the treasury of Ptolemy Philadelphus contained 740,000 talents; and assuming with Ebers* the Egyptian at half the Æginetan, we have the marvellous sum of £83,250,000. According to Diodorus (i. 62), the treasury of Rhampsinit,

* "Ægypten," etc., p. 269, et seq.

concerning which Herodotus (ii. 121, 122) heard a funny story from his interpreter, contained 4,000,000 talents, equal to at least £450,000,000. This rich king's treasure-house has been found portrayed in the far-famed Temple of Medinat Habú: the mass of wealth, gold, silver, copper, and spices, is enormous; and, while the baser metals are in bars, the precious are stored in heaps, sacks, and vases.

The gold-mines of the old Coptos-plain, the modern Kobt, south of Keneh, are preserved to all time by the earliest known map. It has survived; whilst those of the Milesian Anaximander (B.C. 610—547), of Hekatæus (*ob.* B.C. 476), also from Miletus and called the "Father of Geography" (Ebers), and of Ptolemy the Pelusian are irretrievably lost. A papyrus in the Turin Museum contains a plan of the mineral region spoken of in two *stelæ*, those of Radesiyyah and Kuban, describing the supply of drinking-water introduced into the desert between Kuban and the Red Sea. Chabas* has published a coloured facsimile of this map: the gold-containing mountains are tinted red, and the words "Tu en nub" (*Mons aureus*) are written over them in hieratics.

The only modern gold-workings of Egypt are in the *Mudíriyyat* (Nomos) of Famaka, the frontier town, better known as Fayzoghlú from its adjacent

* "Les Inscriptions des Mines d'Or," etc. Paris, 1862.

heights. The washings were visited lately (March, 1878) by my enterprising friend, Dr. P. Matteucci, and M. Gessi. In old days this local Cayenne had a very bad name; convicts were deported here with a frightful mortality. It is still a station for galley-slaves, and it has a considerable garrison, but we no longer hear of an abnormal fatality. The surface was much turned over by the compulsory miners, and European geologists and experts were sent to superintend them; at last the diggings did not pay and were abandoned. But the natives do by "rule of thumb," despite their ignorance of mineralogy, without study of ground; and lacking co-ordination of labour, what the Government failed to do. They have not struck the chief vein, if any exist; but, during the heavy rains of the *Kharif* ("autumn") in the valley of the Túmát river, herds of slaves are sent yearly to wash gold, and they find sufficient to supply the only known coin—bars or ingots.

Beyond the Siyághah, the left bank is gashed by the ravines draining the south-eastern prolongation of the "Yellow Hill." Water cuts through this rotten formation of rubbish like a knife into cheese; forming deep chasms, here narrow, there broad, with walls built up, as it were, of fragments, and ready to be levelled by the first rains. The lines of street and the outlines of tenements can

be dimly traced, while revetments of rounded boulders show artificial watercourses and defences against the now dried-up stream. The breadth of this, the eastern settlement, varies with the extent of the ledge between the gypsum-hills and the sandy Wady ; the length may be a kilomètre. The best preserved traces of crowded building end with the south-eastern spur of the Jebel el-Safrá. Beyond them is a huge cemetery. The ancient graves are pits in the ground ; a few still uncovered, the many yawning wide, and all of them ignoring orientation. Those of the moderns, on the contrary, front towards Meccah. The Bedawin of this country seem ever to prefer for their last homes the most ancient sites ; they place the body in a pit, covered with a large slab or a heap of stones, but they never fill in the hollow, as is usual among Moslems, with earth. The arrangements suit equally well the hyena and the skull-collector ; and thus I was able to make a fair collection of Bedawi crania.

At the south-eastern end of the outliers projected by the Jebel el-Safrá, where a gentle slope of red earth falls towards the valley-bank, is the only group of building of which any part is still standing. The site may be old, but the present ruins are distinctly mediæval, dating probably from the days of the Egyptian "Mameluke" Sultans. Beginning from below and to the south-west is a Hauz, or

"cistern," measuring twenty-six by nineteen and a half mètres, with a depth of nine to ten feet. The material is cut sandstone, cemented outside with mortar containing the normal brick-crumbs and pebbles, and inside mixed with mud. At the north-eastern and south-western corners are retaining buttresses in two steps, exactly like those in the inland fort of El-Wijh; at the two other angles are flights of stairs, and the sole is a sheet of dried silt. To the south-east lies the remnant of a small circular furnace, and on the north-north-east a broken wall shows where stood the *Bayt el-Saghir*, or smaller reservoir. A narrow conduit of cut stone leads, with elaborate zigzags, towards two *Sakiyah* ("draw-wells") hollowed in the gypsum. The Southern, an oval of five mètres ten centimètres, is much dilapidated; and its crumbling throat is spanned by a worn-out arch of the surrounding Secondary rock. Close to the north-west is the other, revetted with cut stone, and measuring six mètres in diameter. It is an elaborate affair; with a pointed arch and a regular keystone, circular *Sadúd*, or "walls for supporting the hauling-apparatus," and minor reservoirs numbering three. On a detached hillock, a few paces to the north, stands the Fort which defended the establishment. The short walls of the parallelogram measure fifteen mètres forty centimetres; and the long, eighteen mètres

sixty centimètres: the gate, choked by ruins, leads to a small hall, with a masked entrance opening to the right. There is a narrow room under the stone steps to the west, and two others occupy the eastern side. This Fort is to be restored for the better protection of pilgrims; and shortly after our departure an Egyptian engineer, Sulayman Effendi, came from Suez to inspect and report upon it.

According to local modern tradition this scatter of masonry was the original site of the settlement, called after the builder *Bir el-Sa'ídáni*—"the Well of Sa'ídán." For watering each caravan the proprietor demanded a camel by way of fee; at last a Maghribí, that is, a magician, refused to "part;" betook himself to the present camping ground, sank pits, and let loose the copious springs. The old wells then dried up, and the new sources gave to this section of the great Wady 'Afál its actual name, Wady el-Bada'—"of the innovation," so hateful to the conservative savage. Hence Rüppell's "Beden," which would mean an ibex.

On the opposite or right bank of the broad and sandy bed, the traces of ancient buildings extend to a far greater distance, at least to two kilomètres. They have been a continuous line of forts, cisterns, and tenements, still marked out by the bases of long thick walls; the material is mostly gypsum, leprous-white as the skin of Gehazi. But here, and indeed

generally throughout Midian, the furious torrents, uncontrolled during long ages by the hand of man, have swept large gaps in the masses of homestead and public buildings. Again the ruins of this section are distributable into two kinds—the City of the Living, and the City of the Dead.

The former, of considerable extent, hugs the watercourse, and crowns all the natural spurs that buttress the bed. Beginning from the north lie two blocks of building considerable in extent: the southern, called by the Arabs El-Malká, is a broken parallelogram. Further down stream the bank is a vast strew of broken pottery; and one place, covered with glass fragments, was named by our soldiers *El-Khammárah*—"the tavern" or "the hotel." As in ancient Etruria, so here, the people assemble after heavy rains to pick up what luck throws in the way. It is said that they often gather gold pieces, square as well as round, bearing by way of inscription "prayers" to the Apostle of Allah. Some of us, however, had a shrewd suspicion that the *Tibr*, or "pure gold-dust," is still washed from the sands, and cast probably in rude moulds.

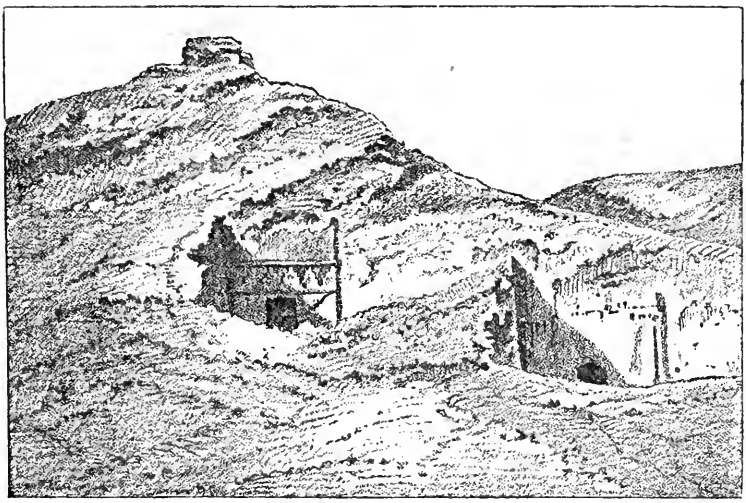
Behind, inland or westward of this southern town, lies the City of the Dead. Unlike the pitted graveyard to the north-east, the cemetery is wholly composed of catacombs, which the Bedawin call *Maghair* ("caves") or *Bíbán* ("doors"). The sites

are the sides and mouths of four little branch-valleys which cut through the hillocks representing the Wady-bank. The northernmost is known as Wady el-Khurayk, because it drains a height of that name: the others bear the generic term Wady el-Safrá, so called, like the *hauteville* hill, from the tawny-yellow colour of the rocks. The catacombs, fronting in all directions, because the makers were guided by convenience, not by ceremonial rule, are hollowed in the soft new sandstone underlying the snowy gypsum; and most of the façades show one or more horizontal lines of natural bead-work, rolled pebbles disposed parallelly by the natural action of water. In the most ruinous, the upper layer is a cornice of hard sandstone, stained yellow with iron and much creviced; the base, a soft conglomerate of the same material, is easily corroded; and the supernal part caves in upon the principle which is destroying Niagara. At each side of the doorways is a *Mastabah* ("stone bench"), also rock-hewn, and with triple steps. The door-jambs, which have hollowings for hinges and holes for bars, are much worn and often broken; they are rarely inclined inwards after the fashion of Egypt. A few have windows, or rather port-holes, flanking the single entrance. The peculiarities and the rare ornaments will be noticed when describing each receptacle; taken as a whole, they are evidently rude

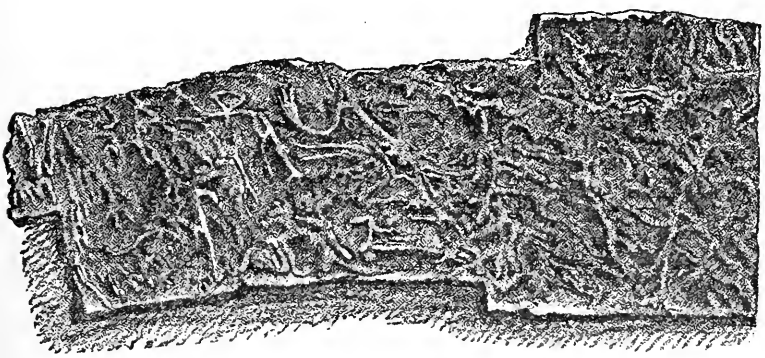
and barbarous forms of the artistic catacombs and tower-tombs that characterize Petra and Palmyra.

The "Magháir" may roughly be divided into four topical groups. These are—the northern out-

CATACOMBS.

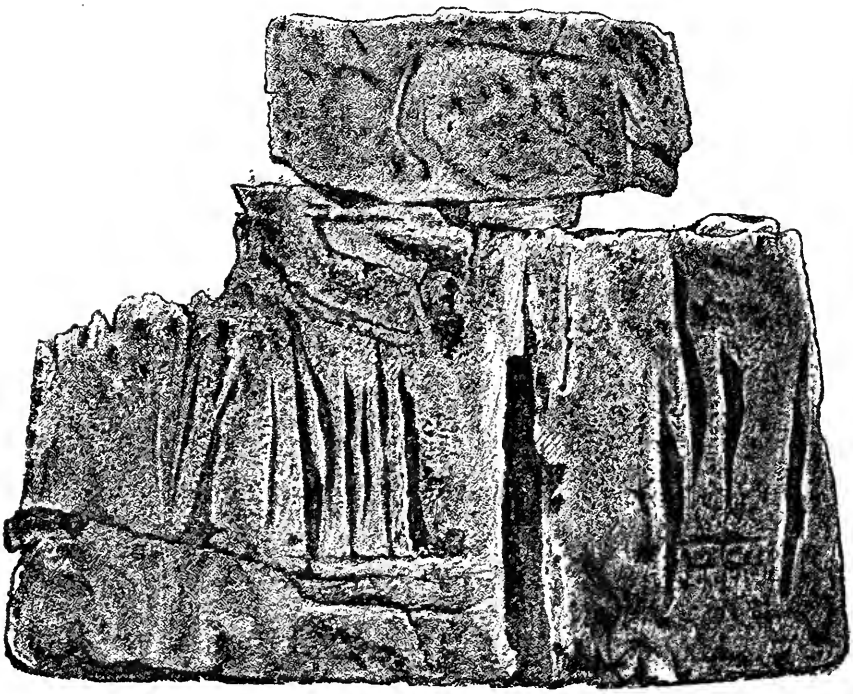


SINGLE INSCRIPTION (CATACOMB No. 1).



liers; the "Tombs of the Kings," so called by ourselves because they distinguish themselves from all the others; the "buttressed caves" (two sets); and the southern outliers. The first mentioned begin with a ruin on the right jaw of the Khurayk gorge:

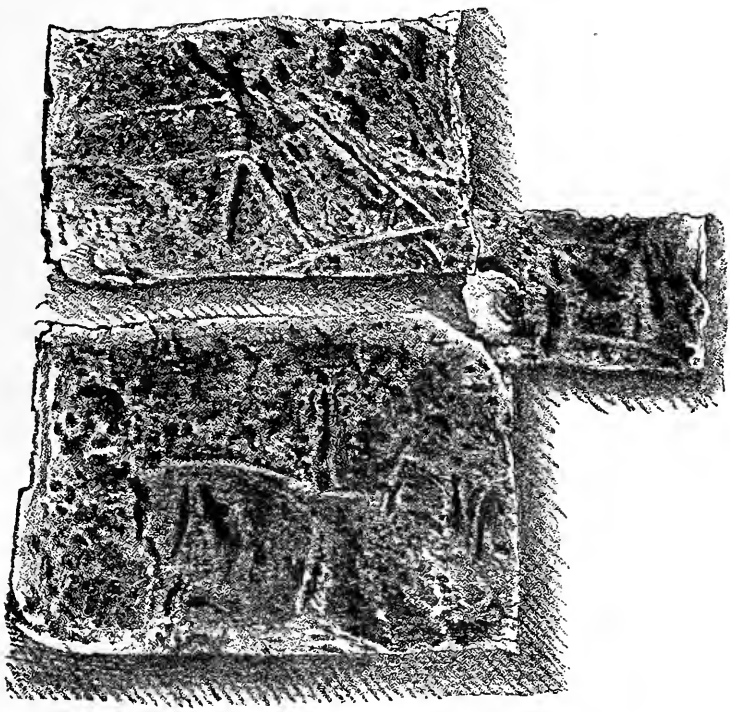
TWO FRAGMENTS (CATACOMB No. 1).



FRAGMENTS (CATACOMB No. 2).

it is dug in strata dipping, as usual, from north-west to south-east; it faces eastward, and the entrance declines to the south. All external appearance of a catacomb has disappeared; a rude porch, a frame of sticks and boughs, like the thatched eaves of a

TWO FRAGMENTS (NORTHERN CATACOMB).



Bulgarian hut, stands outside, while inside signs of occupation appear in hearths and goat-dung, in smoky roof, and in rubbish-strewn floor. Over another ruin to the west are *graffiti*, of which copies from squeezes and photographs are here given: there are two loculi in the southern wall; and in the south-eastern corner is a pit, also sunk for a sarcophagus. A hill-side to the south of this cave shows another, dug in the *Tauá* or

coloured sandstone, and apparently unfinished: part of it is sanded up, and its only yield, an Egyptian oil-jar of modern make, probably belonged to some pilgrim. Crossing the second dwarf gorge we find, on the right bank, a third large ruin of at least fourteen loculi; the hard upper reef, dipping at an angle of 30°, and striking from north-west to south-east, fell in when the soft base was washed away by weather, and the anatomy of the graves is completely laid bare. Higher up the same Wady is a fourth *Maghárah*, also broken down: the stucco-coating still shows remnants of red paint; and the characters 𐤉𐤋—possibly Arab "Wasm," or tribe-marks—are cut into an upright entrance-stone.

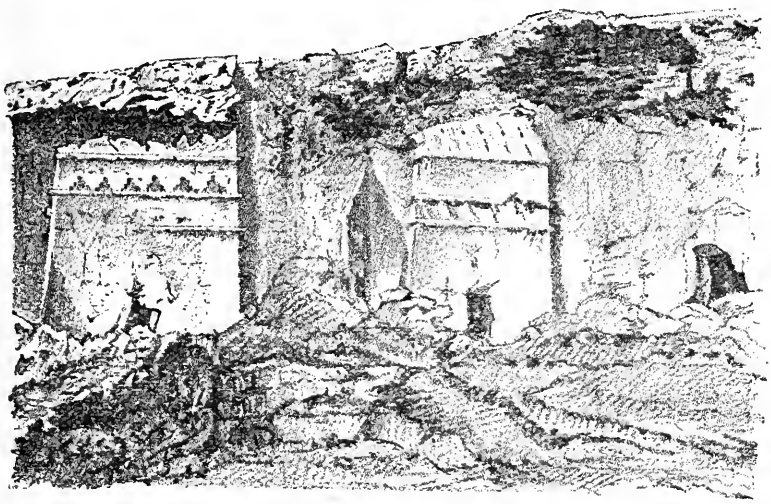
The precipitous left bank of the third gorge contains the three finest specimens, which deserve to be entitled the "Tombs of the Kings." Of these, the two facing eastward are figured by Rüppell (p. 220) in the antiquated style of his day, with fanciful foreground and background.* His sketch also places solid rock where the third and very dilapidated catacomb of this group, disposed at right angles, fronts southwards. Possibly the façades may once have been stuccoed and coloured; now they show the bare and pebble-banded sandstone.

The southernmost, which may be assumed as

* In *Tafel* viii. (p. 387), he has added some cursory notes on the *Sepulcral-Monumente in dem Thale Beden.*

the type, has an upright door, flanked by a stone bench of three steps. Over the entrance is a defaced ornament which may have been the bust of a man: in Rüppell it is a kind of geometrical design. The frontage has two parallel horizontal lines, raised to represent cornices. Each bears a decoration re-

"TOMBS OF THE KINGS," MAGHÁIR SHU'AYB.



sembling crenelles or Oriental ramparts broken into three steps; the lower set numbers eight, including the half ornaments at the corners, and the higher seven. The interior is a mixture of upright recesses, probably intended for the gods or demons; and of horizontal loculi, whose grooves show that they had lids. There is no symmetry in the niches, in the sarcophagi, or in the paths and passages threading the graves. The disposition will best be understood from the ground-plans drawn by the young Egyptian officers: their sketches of the façades are too care-

less and incorrect for use; but the want is supplied by the photographs of M. Lacaze.

Above these three "Tombs of the Kings" are many rock-cavities which may or may not have been sepulchral. Time has done his worst with them. We mounted the background of a quoin-shaped hill by a well-trodden path, leading to the remnants of a rude *Burj* ("watch-tower"), and to a semicircle of dry wall, garnished with a few sticks for hanging rags and tatters. The latter denotes the Musallat Shu'ayb, or praying-place of (prophet) Jethro; and here our Sayyid and our Shaykh took the opportunity of applying for temporal and eternal blessings. The height at the edge of the precipice which, cliffing to the north, showed a view of our camp and of Yubú' and Shu'shú' Islands, was in round numbers 450 feet (aner. 29·40—28·94). From this vantage-ground we could distinctly trace the line of the Wady Makná, beginning in a round basin at the western foot of the northern Shigd Mountain and its sub-range; while low rolling hills, along which we were to travel, separated it from the Wady Bada'-'Afál to the south.

Two other important sets of catacombs, which I will call the "buttressed caves," are pierced in the right flank of the same gorge, at the base of a little conical hill, quaintly capped with a finial of weathered rock. The material is the normal silicious

gravel-grit, traversed and *cloisonné* by dykes of harder stone. Beginning at the south, we find a range of three, facing eastward and separated from one another by flying buttresses of natural rock. No. 1 has a window as well as a door. Next to it is a square with six open loculi ranged from north to south. No. 3 shows a peculiarity—two small pilasters of the rudest (Egyptian ?) Doric, the only sign of ornamentation found inside the tombs; a small break in the south-western wall connects it with the northernmost loculus of No. 2. Furthest north are three bevel-holes, noting the beginning of a catacomb; and round the northern flank of the detached cone are six separate caves, all laid waste by the furious northern gales.

The second set is carved in the bluff eastern end of an adjoining reef that runs away from the Wady; it consists of four sepulchres with the normal buttresses. They somewhat resemble those of the Kings, but there are various differences. No. 2 from the south is flanked by pilasters with ram's-horn capitals, barbarous forms of Ionic connected by three sets of triglyphs: the pavement is of slabs; there is an inner niche, and one of the corners has apparently been used as an oven. On a higher plane lies a sunken tomb, with a deep drop and foot-holes by way of ladder; outside it the rocky platform is hollowed, apparently for graves. The

other three façades bear the crenelle ornaments ; the two to the north show double lines of seven holes drilled deep into the plain surface above the door, as if a casing had been nailed on; while the northernmost yielded a fragmentary inscription on the southern wall. These are doubtless the "inscribed tablets on which the names of kings are engraved," alluded to in the Jihan-numá of Haji Khalífah.* Rounding the reef to the north, we found three catacombs in the worst condition: one of them showed holes drilled in the façade.

The southern outliers lie far down the Wady 'Afál, facing east, and hewn in the left flank of a dwarf gulley which falls into the right bank not far from the site called by our men "the tavern." The group numbers three, all cut in the normal sandstone, with the harder dykes which here stand up like ears. The principal item is the upper cave, small, square, and apparently still used by the Arabs: in the middle of the lintel is a lump looking like the mutilated capital of a column. The two lower caves show only traces.

There is a tradition that some years ago a Frank (Rüppell ?), after removing his Arab guides, dug into the tombs, and found nothing but human hair. Several of the horizontal loculi contained the bones of men and beasts: I did not disturb them, as all

* Wellsted, vol. ii., appendix.

appeared to be modern. The floors sounding hollow, gave my companions hopes of "finds;" but I had learned, after many a disappointment, how carefully the Bedawi ransack such places. We dug into four sepulchres, including the sunken catacomb and the (southern) inscribed tomb. Usually six inches of flooring led to the ground-rock; in the sarcophagi about eight inches of tamped earth was based upon nine feet of sand that ended at the bottom. The only results were mouldering bones, bits of marble and pottery, and dry seeds of the Kaff Maryam, the Rose of Jericho (*Anastatica*), which here feeds the partridges, and which in Egypt supplies children with medicine, and expectant mothers with a charm. As the plant is bibulous, opening to water and even to the breath, it is placed by the couch, and its movement shows what is to happen. The cave also yielded specimens of bats (*Rhinopoma macrophyllum*), with fat at the root of their spiky tails.

I have described at considerable length this ruined Madiáma, which is evidently the capital of Madyan Proper, ranking after Petra. In one point it is still what it was, a chief station upon the highway, then Nabatí, now Moslem, which led to the Ghor or Wady el-'Arabah. But in all others how changed! "The traveller shall come; he that saw me in my beauty shall come: his eyes shall search the field; they shall not find me."

CHAPTER IV.

NOTICES OF PRECIOUS METALS IN MIDIAN—THE PAPYRI AND THE MEDIÆVAL ARAB GEOGRAPHERS.

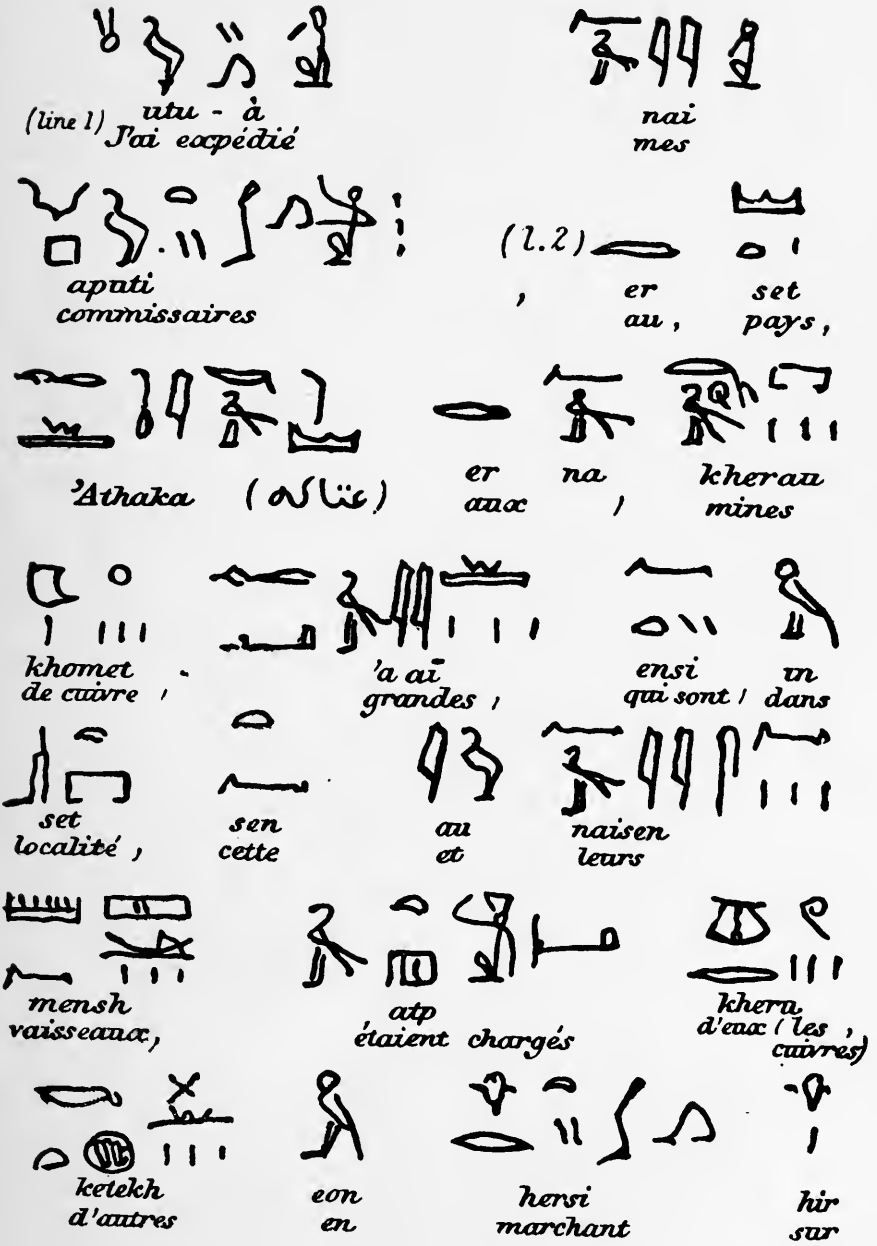
In my volume on "The Gold-Mines of Midian," the popular Hebrew sources of information—the Old Testament and the Talmud—were ransacked for the benefit of the reader. It now remains to consult the Egyptian papyri and the pages of the mediæval Arab geographers: extracts from the latter were made for me, in my absence from England, by the well-known Arabist, the Rev. G. Percy Badger.* I will begin with the beginning.

Dr. Heinrich Brugsch-Bey, whose "History of Egypt"† is the latest and best gift to Egyptologists,

* All the useful matter has already been borrowed from Abulfeda. Dr. Badger tells me that he looked through his Jarídat el-'Ajáib, wa Farídat el-Gharáib, by Siráj el-Din Umar ibn el-Wardí, A.H. 940 (= A.D. 1533—1534), where he expected to find, but did not find, notices of Madyan.

† Geschichte Ægyptens unter den Pharaonen. Nach den Denkmählern bearbeitet, von Dr. Heinrich Brugsch-Bey. Erste deutsche Ausgabe. Leipzig: Hinrichs'sche Buchhandlung, 1877. Already the *Première Partie* had appeared in French, "Histoire

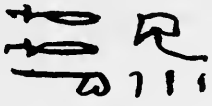
says Rameses, the King
(B.C. 1200)



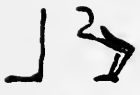
[*Chap. IV.*

na ĭu
leurs

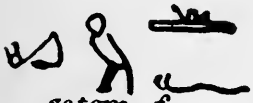
(line 3)



'a' a
ânes

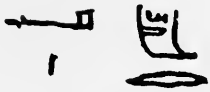


bu
Non

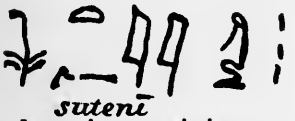


setem-f
il l'at entendu

ter
jamais

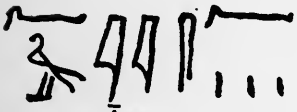


tot *ser*
depuis

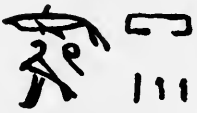


sutenī
les rois (antérieurs)

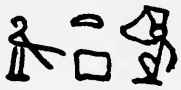
kemī
qu'on aurait trouvé



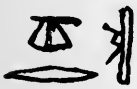
naīsen
leurs



khĕrau
mines

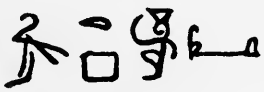


atp
les charges

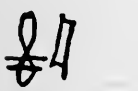


khĕr
portaient

khomet
le cuivre



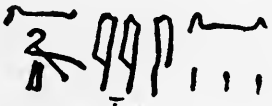
atp
les charges



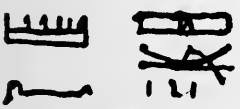
mà
étaient par

teb
myriades

er
pour



naīsen
leurs



mensh
navires (l. 4)

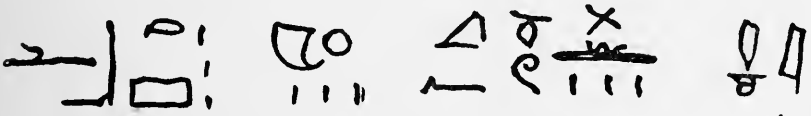
utu
qui partaient

em-hiru
de là

er *kem* *sper* *uza*
pour *l'Égypte.* *Arrivés* *heureusement*

fa *aru* *em* *sàd*
décharge *fut faite* *selon* *l'ordre (royal)*

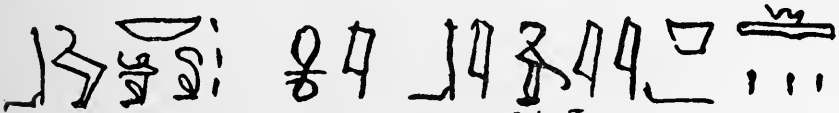
kher *pa* *seshed* *em*
sous *le* *balcon (du roi)* *des*



deb *khomet* *gennu* *mà*
briques *de cuivre* *elles étaient nombreuses* *comme*

hefennu *àu* *em* *anna* (l. 4)
cent-mille, *étant* *par* *qualité*

nub *en* *ro-khomt* *àra-a* *ma-sen*
l'or *du* *3me degré* *je fis* *les admirer*



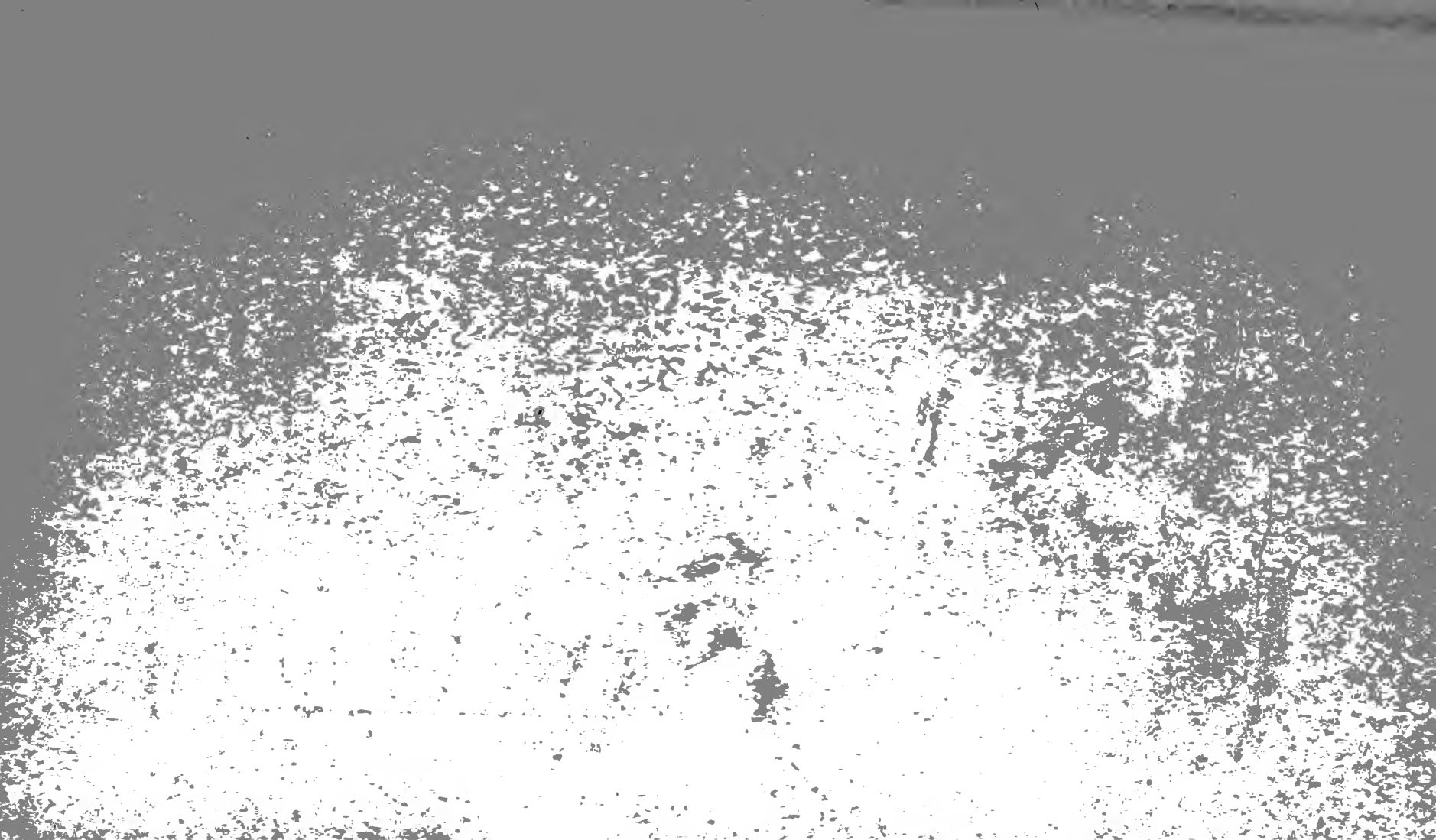
bu-neb *ma* *bàaū*
tout le monde *comme* *choses étonnantes*

The following is a list of the letters and the syllabic signs which occur in this inscription.

Toth aquatic plant		*ȧ*	*(consonant)*		*q*	ق		*-tot*
Eagle		*a*	*(vowel)*		*s*	س		*-mȧ*
Arm		*ʾa*	ع		*sh*	ش		*-teb*
Knot		*ū*	*(cons)*		*t*	ط		*-kem*
Bird Quail		*u*	*(vowel)*		*th*	ث ت		*-spr*
		ī	*(cons.)*		*z*	ز		*-za*
		i	*(vowel)*	*Signes Syllabiques*				*-ar*
Leg		*b*	ب				*=uta*	*-pa*
Square		*p*	پ				*=ȧp*	*=shet*
Owl		*m*	م				*=set*	*=ȧn*
Water		*n*	ن				*=ȧa*	*=nub*
		f	ف				*=kher*	*=ma*
Mouth		*r*	ر				*=khomt*	
House		*h*	ه				*=men*	
Knot		*ḥ*	ح				*=kher*	
Sieve		*kh*	خ				*=her*	
Seat		*g*	ج				*=setem*	
Cup		*k*	ك				*=ter*	

Syllabic.

Syllabic.



kindly drew my attention to an interesting passage in his work, and was good enough to copy for me the source of his information, the Harris Papyrus (No. 1) in the British Museum.

The first king of the twentieth Dynasty, born about B.C. 1200, and residing at Thebes, was Rameses III., whose title, *Ramessu pa-Nuter* (or *Nuti*), "Ramses the god," became in the hands of the Greeks Rhampsinitos. This great prince, ascending the throne in evil days, applied himself at once to the internal and external economy of his realm; he restored the caste-divisions, and carried fire and sword into the lands of his enemies. He transported many captives to Egypt; fortified his eastern frontier; and built, in the Gulf of Suez, a fleet of large and small ships, in order to traffic with Pun and the "Holy Land,"* and to open communica-

d'Égypte, Introduction—Histoire des Dynasties i.—xvii.;" published by the same house with a second edition in 1875. An English translation of this most valuable compendium, whose German is of the hardest, is now being printed in London.

* Pun, or Punt, the region on both sides of the Red Sea-mouth, including El-Yemen and Cape Guardafui, was made holy by the birth of Osiris, Isis, and Horus. Dr. Brugsch-Bey shows that one of the titles of the he-god was Bass, the cat or the leopard (whence our "Puss"); whilst his wife, Bast (*the bissat* or tabby-cat of modern Arabic), gave her name to Bubastis (Pi-Bast, the city of Bast). From the Osiric term (Bass) the learned Egyptologist would derive Bacchus and his priests, the Bacchoi and the Bacchantes, whose dress was the leopard's skin. Could Osiris have belonged to the race whose degenerate descendants are the murderous Somal of modern days?

tion with the "Incense-country" and with the wealthy shores of the Indian Ocean.

"Not less important," says our author (p. 594), "for Egypt, which required before all things the copper applied to every branch of her industry, was the sending of commissioners, by land (on donkey-back!) and by sea, to explore and exploit the rich cupriferous deposits of 'Athâka (in the neighbourhood of the 'Akabah Gulf?). This metal, with the glance of gold, was there cast in brick-shape, and was transported by sea to the capital.

"The king also restored his attention to the treasures of the Sinaitic Peninsula, which had excited the concupiscence of the Egyptians since the days of King Senoferu* (B.C. 3700). Loaded with rich presents for the sanctuary of the goddess Hathor, the protectress of Mafka-land, chosen *employés* were despatched on a royal commission to the peninsula, for the purpose of supplying the Pharaoh's treasury with the highly prized blue-green copper-stones (Mafka, Türkisen?†)."

* *Vulg.* Snefrou, "he who makes it good;" the ninth of the third Dynasty; the twenty-fourth successor of Mena (Menes) in the papyri, and the twenty-sixth according to Manetho the priest. He conquered the "Mafka-land," as the Sinaitic Peninsula was then called; and Wady Maghárah still shows his statue, habited in warrior garb, with the proud inscription, "Vanquisher of Stranger Races." This campaign lends some colour to my suspicion that Sináfir Island, at the mouth of the Gulf el-'Akabah, may preserve his name.

† The German *Türkis*, and the English and French *Turquoise*, are both evidently derived from *Gemma Turcica*, Western Turkistan being considered the source of the finest stones.

These lines were published by Dr. Brugsch-Bey before he had heard of my discoveries of metals and of a modern turquoise-digging in the Land of Midian. He had decided that "'Atháka" lay to the east of Suez, chiefly from the insistance laid upon the shipping; sea-going craft would certainly not be required for a sail of three or four hours. Moreover, as I have elsewhere shown, *Jebel 'Atákah*, the "Mountain of Deliverance," at the mouth of the Wady Musá, was referred to the Jews at some time after the Christian era, and probably during the fourth and fifth centuries, when pilgrimages to the apocryphal Mounts Sinai became the fashion.

During the summer of 1877, Dr. Brugsch-Bey was kind enough to copy and to translate the original document, upon which he founded his short account of the "'Atháka" copper-mines. I offer it to the reader in full.

The order of the alphabet is that adopted by Dr. Brugsch-Bey. It relies for the first letter upon the authority of Plutarch, who asserts that the Egyptian abecedarium numbered the square of five (twenty-five); and that it opened with ἄλφα, which also expresses the god Thoth;—this is the case with , the leaf of some water-plant. The sequence of the letters has been suggested by a number of minor considerations: we begin with

the vowels, and proceed to the labial, the liquids, and so forth.*

The sense of the highly interesting inscription, in its English order, would be:—

"I have sent my commissioners to the land 'Athâka; to the (those) † great mines of copper (or coppers) ‡ which are in this place ('Athâka); and their (*i.e.* the commissioners') ships § were loaded, carrying them (the metals); while other (commissioners were sent and) marched on their asses. No! one never (*ter-tot*) had heard, since the (days of the olden) kings, that these (copper) mines had been found.‖ The loads (*i.e.* of the ships and the asses) carried copper; the loads were by myriads for their ships, which went thence (*i.e.* from the mines) to Egypt. (After) happily arriving, the loads were landed, according to royal order, under the Pavilion,¶ in form of copper-bricks;** they were numerous as frogs (in the marsh),†† and in quality they were gold (*Nub*) of the third degree.‡‡ I made them admired (by) all the world as marvellous things."

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* The accompanying lithograph gives a list of the letters and the syllabic signs which occur in the inscription.

† The article "Ná" is emphatic, *the* with the sense of *that* or *those.*

‡ "Khomet" signifies, 1. Copper, 2. Metal generally, as *argent*, etc.

§ "Mensh" is always applied to sea-going ships, as opposed to Bari, Uáu, Kerer, etc., riverine craft.

‖ "Kemí" signifies, 1. Found, 2. Found out, discovered.

¶ That is, the royal pavilion at Thebes.

** The word "Deb" (brick) still survives in the Arabic *Tob*, and, perverted to the Iberian *Adobe* (Et-tob) it has travelled to Mexico.

†† "Hefennu," as is shown by the ideograph to the right over the three perpendiculars denoting plurality, may be either a frog or a lakh (one hundred thousand).

‡‡ The Egyptians divided gold into four qualities—1, 2, 3, and two-thirds. But it is not known whether No. 1 was the best, and we can only guess that two-thirds alluded to some alloy.

The following lines upon the subject of Midian are from the notes (p. 143) of Jacob Golius in "Alferganum" (small 4to. Amsterdam, 1669), a valuable translation with geographical explanations. Ahmad ibn Mohammed ibn Kathír el-Farghání derived his "lakab" or cognomen from the province of Farghán (Khokand), to the north-east of the Oxus; he wrote a work upon astronomy, and he flourished about A.H. 184 (= A.D. 800).

"Ibidem (مدين Madyan) Medjan sive Midjan, Antiqui nominis oppidum in Maris Rubri littore, sub 29° grad. latitudine; ad ortum brumalem deflectens à montis Sinæ extremitate: ubi ferè sita Ptolemæi Modiana, haud dubiè eadem cum Midjan. A Geographorum Orientalium quibusdam ad Ægyptum refertur; à plerisq; omnibus ad Higiazam: quod merito et rectè factum. Nullus enim est, qui Arabibus non annumeret Madianitas; et Sinam, quæ Madjane borealior, montem Arabiæ facit D. Paulus Gal. iv. Midjan autem fuit Abrahami ex Kethura filius: unde tribus illa et ab hac urbs nomen habent. Quam quidem tribum coaluisse, sedibus ut puto et affinitate in unam cum Ismaëlitis, innuere videntur Geneseos verba. Nam conspirantibus in Josephi exitium fratribus dicuntur supervenisse Ismaëlitæ; transivisse Midjanite; ipse vēditus ab Ismaëlitis. Ceterum urbem Midjan Arabes pro ea habent, quæ in Corano vocatur (شعيب Madínat Kúsh): Xaîb* enim illis idem est, qui Jethro dicitur Exod. iii. cujus filiam Sipporam Moses uxorē duxit, cum ex Ægypto profugisset in terram Midjan; ubi Jethro princeps erat et Sacerdos. Autonomosia illa Arabibus familiaris. Ita Hanoch (أخنوخ Aknúkh) appelatus, Abraham (El-Khalíl), Rex Saul (طالوت Tálút), etc., licet eorundem propria etiam usurpentur nomina. Et in ipsis Sacris Libris non uno nomine hic Jethro designatur. Loci illius puteum † Scriptores memorant fano circum extructo Arabibus sacrum, per-

* The same as the Shu'ayb of my pages.

† For a notice of "Moses' Well," now quite forgotten by the Arabs, see Chapter VI.

suasis Mosem ibi Sipporam et sorores à pastorum injuriis vindicasse; prout Exod., cap. ii., res describitur. Sed primis Muhammedici regni bellis universa fere, quæ runc extabat, urbs vastata fuit."

El-Farghání is followed by the Imám Abú 'Abbás Ahmed bin Yáhyá bin Jábir, surnamed and popularly known as El-Balázurí, who flourished between A.H. 232 and 247 (= A.D. 846 to 861), and wrote the Futúh el-Buldán, or the "Conquests of Countries." His words are (pp. 13–14, M. J. de Goeje's edition; Lugduni Batavorum, 1866)—"It was related to me by Abú Abíd el-Kásim bin Sallám; who said he was told by Ishák bin Isa, from Malík ibn Anas and from Rabí'at, who heard from a number of the learned, that the Apostle of Allah (upon whom be peace!) gave in feoff (Iktá'at) to Bilál bin el-Háris el-Muzni, mines (*Ma'ádin, i.e.* of gold) in the district of Furú' (variant, Kurú'). Moreover, it was related to me by Amrú el-Nákid, and by Ibn Saham el-Antáki (of Antioch), who both declared to have heard from El-Haytham bin Jamíl el-Antáki, through Hammád bin Salmah, that Abú Makín, through Abú Ikrimah Maulá Bilál bin el-Háris el-Muzni, had averred 'The Apostle of Allah (upon whom be peace!) enfeoffed the said Bilál with (a bit of) ground containing a mountain and a (gold) mine; that the sons of Bilál sold part of the grant to one 'Umar bin 'Abd el-'Azíz, when a (gold) mine or, according to others, two (gold) mines were found in

it; that they said to the buyer, Verily we sold to thee land for cultivation, and we did not sell thee (gold) mining-ground; that they brought the letter of the Apostle (upon whom be peace!) in a (bound) volume: that 'Umar kissed it and rubbed it upon his eyes, and said, Of a truth let me see what hath come out of it (the mine) and what I have laid out upon it.' Then he deducted from them the expenses of working and returned to them the surplus. . . . And I was told by Musa'b el-Zubayri, from Malik ibn Anas, that the Apostle of Allah (upon whom be peace!) gave in feoff to Bilál bin Háris mines in the district of Fara' (*sic*). There is no difference of opinion among our learned men on this subject, nor do I know any of our companions who contradicts (the statement) that the (gold) mine paid one-fourth per ten (= 2½ per cent.) royalty (to the *Bayt el-Mál*, or Public Treasury). Musa'b further relates, from El-Zahri, that the (gold) mine defrayed the *Zakát* or poor-rate: he also said that the proportion was one-fifth (= 2 per cent.); like that which the people of El-Irák (Mesopotamia) take to this day from the (gold) mines of El-Fara' (*sic*), and of Nejrán, and of Zú'l-Marwah, and of Wady El-Kura* and others. Moreover, the fifth is also mentioned by Safáin el-Thauri, and by Abú Hanífah

* For an account of these diggings, see "The Gold-Mines of Midian," Chap. IX.

and Abú Yúsuf, as well as by the people of El-'Irák."

Follows on my list the celebrated Murúj el-Dahab, or "Meads of Gold," by El-Mas'údi, who died in A.H. 346 (= A.D. 957), and whose book extends to A.H. 332 (= A.D. 943). Unable to find the translation of my friend Sprenger, I am compelled to quote from "Maçoudi. Les Prairies d'Or," texte et traduction par C. Barbier de Meynard et Pavet de Courteille. Société Asiatique, Paris, 1864, vol. iii. pp. 301—305.

"Les théologiens ne sont pas d'accord sur la question de savoir à quel peuple appartenait Choaïb (Shu'ayb), fils de Nawil, fils de Rawaïl, fils de Mour, fils d'Anka, fils de Madian, fils d'Abraham, l'ami de Dieu, quoiqu'il soit certain que sa langue était l'arabe. Les uns pensent qu'il appartenait aux races arabes éteintes, aux nations qui ont disparu, à quelque une de ces générations passées dont nous avons parlé. Suivant d'autres, il s'agirait ici des descendants d'el-Mahd, fils de Djandal, fils de Yâssob, fils de Madian, fils d'Abraham, dont Choaïb etait frère par la naissance. De cette race sortit un grand nombre de rois qui s'étaient dispersés dans des royaumes contigus les uns aux autres ou séparés. Parmi ces rois il faut distinguer ceux qui étaient nommés *Aboudjed*, *Hawaz*, *Houti*, *Kalamoun*, *Çafas* et *Kourichat*,* tous, comme nous venons de le dire, fils d'el-Mahd, fils de Djandal. Les lettres de l'alphabet sont représentées précisément par les noms de ces rois, où l'on retrouve les vingt-quatre lettres sur lesquelles roule l'*Aboudjed*.† Il a été dit beaucoup

* This strange legend will be found copied into many subsequent authors.

† El-Abjad, the oldest existing form of the Arabic alphabet; to judge from its being identical with the Hebrew. It is supposed to date from after the beginning of the Christian era, when the Himyaritic form fell into disuse, and it is now used in chronograms only.

d'autres choses à propos de ces lettres, comme nous l'avons fait remarquer dans cet ouvrage ; mais il n'entre pas dans notre sujet de rapporter ici tous les systèmes contradictoires imaginés pour l'expliquer la signification des lettres.* Aboudjed fut roi de la Mecque et de la partie du Hédjaz qui y confine. Hawaz et Houti régnèrent conjointement dans le pays de Weddj (El-Wijh), qui est le territoire de Tayif, et la portion du Nedjd qui lui est contiguë. Kalamoun exerçait la suzeraineté sur le royaume de Madian ; il y a même des auteurs qui pensent que son autorité s'étendait conjointement sur tous les princes et les pays que nous venons de nommer. Le châtiment du *jour de la nuée* (Koran, xxvi. 189) eut lieu sous le règne de Kalamoun. Choaïb appelant ces impies à la pénitence, ils le traitèrent de menteur. Alors il les menaça du châtiment du jour de la nuée, à la suite de quoi une porte du feu du ciel fut ouverte sur eux. Choaïb se retira, avec ceux qui avaient cru, dans l'endroit connu sous le nom d'el Aïkah, qui est un fourré dans la direction de Madian. Cependant, lorsque les incrédules sentirent les effets de la vengeance céleste, et que, consumés par une chaleur terrible, ils comprirent enfin la vérité, ils se mirent à la recherche de Choaïb et de ceux qui avaient cru en lui. Ils les trouvèrent abrités sous un nuage blanc, doucement rafraîchi par le zéphire, et ne ressentant en rien les atteintes de la douleur. Ils les chassèrent de cet asile, s'imaginant qu'ils y trouveraient eux-mêmes un refuge contre le fléau qui les poursuivait. Mais Dieu changea cette nuée en un feu qui se précipita sur leurs têtes. Mountassir, fils d'el-Moundir el-Médéni, a parlé de ce peuple et a déploré son triste sort dans des vers où il dit :

"Les rois des enfants de Houti et de Çafas, qui vivaient dans

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* L'auteur est doublement inexact en avançant que l'*Aboudjed* se compose de vingt-quatre lettres seulement, d'abord parce que les six mots qu'il énumère ne renferment que vingt-deux lettres, et en second lieu, parce qu'il oublie de citer les deux derniers mots techniques, ثخذ et ضظغ, lesquels complétent les vingt-huit lettres prises comme valeurs numériques ("Voyez l'Exposé des signes de numération chez les Orientaux," par M. Pihan, p. 199 et suiv.). To this I may add that the French translators have sadly corrupted the words which should be Abjad, Hawwaz, Huttí, Kalaman, Sa'fas, and Karashat ; whilst Sakhiz and Zuzigh are not found in the Hebrew and cognate dialects.

l'opulence, et ceux de Hawaz, qui possédaient des palais et des appartements somptueux,

"Régnaient sur la contrée du Hédjaz, et leur beauté était semblable à celle des rayons du soleil ou à l'éclat de la lune ;

"Ils habitaient l'emplacement de la maison sainte, ils adoucissaient les mœurs de leurs compatriotes et gouvernaient avec illustration et honneur. . . .

"Rien de plus curieux que l'histoire de ces rois, le récit de leurs guerres, de leurs actes, de la manière dont ils s'emparèrent de ces contrées et établirent leur domination, apres en avoir exterminé les premières possesseurs. Ceux-ci étaient des peuples dont nous avons parlé dans nos précédents ouvrages, en traitant ce sujet; nous appelons l'attention dans ce livre sur nos premiers écrits, et nous engageons le lecteur à les consulter."

The next in order of seniority is the well-known Idrísí (A.H. 531 = A.D. 1136). Dr. Badger's Arabic copy not being paged, he has forwarded to me extracts from the French translation by M. P. Amadée Jaubert (Paris, 1836), having first compared them with the original :—

Tome 1. p. 5: "De cette mer de la Chine dérive encore le golfe de Colzoum (Kulzum), qui commence à Bab el-Mandeb,* au point ou se termine la mer des Indes. Il s'étend au nord, en inclinant un peu vers l'occident, en longeant les rivages occidentales de l'Iemen, le Téháma, l'Hédjaz, jusqu'au pays de Madian, d'Aila (*El-'Akabah*), et de Faran ; et se termine à la ville de Colzoum, dont il tire son nom."

P. 142 : "Les districts fortifiés, dependants de

* The "Gate of Lamentation," vulgarly and most erroneously written, "Babelmandel."

la Mecque, sont . . . Ceux qui sont sous la dépendance de Médine sont . . . Madyan."

P. 328: "Pour aller de Misr (*Cairo*) à Yetríb (*sic pro* Yathrib), on passe par les lieux suivants, Aïlah (Aylah) Madian," etc.

P. 333: "Sur les bords de la mer Colzoum est la ville de Madian (*in orig.* Madiyan) plus grande qui Tabouk (Tabúk), et le puits ou Moïse (sur qui soit le salut!) abreuva le troupeau de Jethro (El-Shu'ayb). On dit que ce puits est (maintenant) à sec [Note at foot: Je lis *Mu'attilah* comme porte le MS. B., et non *Mu'azzamah*,* leçon donnée par le MS. A.]; et qu'on a élevé audessus une construction. L'eau nécéssaire aux habitants provient de sources. Le nom de Madiyan (*sic*) dérive de celui de la tribu à laquelle Jethro appartenait. Cette ville offre très peu de ressources et le commerce y est misérable."

The following notice of Madyan is taken from the Kitáb el-Buldán ("Book of Countries"),† by Ahmed ibn Abí Ya'kúb bin Wádhih, surnamed El-Ya'kúbí and El-Kátib (the writer); according to the Arabic colophon it was completed on the morning of Satur-

* That is, "spoiled," dry; instead of "honoured," respected. The difference of the words is in the "pointing" of the third letter, and the change of *m* and *l*.

† Not to be confounded with a cosmography of the same name by Ahmed ibn Yahyá el-Shá'ir. Cf. *Journal of the Royal Geographical Society*, vol. xx. of 1850, p. 343.

day, Shawwál 21, A.H. 607 (= A.D. 1210). The author gives (p. 129, T. G. J. Juynboll, Lugduni Batavorum, 1861) a description of the route from Misr (Egypt, here Cairo) to Meccah. The first ten stages are—1. Jubb el-'Umayrah; 2. El-Kerkirah (variant, Karkírah); 3. 'Ajrúd, the well-known fort on the direct Suez-Cairo line; 4. Jisr el-Kulzum, where the Gulf was crossed; and, lastly, six Desert marches (*Maráhil*) to Aylah.* The latter station is described as a fine city upon the shore of the Salt Sea, the meeting-place of the pilgrim-caravans from Syria,† Egypt, and the Maghrib (West Africa). It has merchandise in plenty, and its people are a mixed race (*Akhlát min el-Nás*).‡ Here also are sold the fine cloaks called Burdu habaratin, and

* This route, from Suez to El-'Akabah, probably one of the oldest in this world, has been traversed perfunctorily by Burckhardt and by Beke. It still wants a detailed survey, and even hieroglyphic inscriptions may be expected. Beke's map marks *Hawáwít* ("ruins") near one of his nighting-places, but apparently the remains were not visited.

† The Syrian Hajj no longer pass through El-'Akabah to Makná, but inland or eastward of it. The reason is made evident in Chap. VII.

‡ Thus the Khálú or Khárú of the old Egyptians, meaning a "mixed multitude," were originally Phœnicians and domiciled from earliest ages about Lake Menzálah. So the "mixed multitude," or mingled people, which followed Israel from Egypt would be a *riff-raff* of strangers. D'Herbelot says (*sub voce* Midian): "Quoyque les Madianites soient reputez pour Arabes, neanmoins ils ne sont pas du nombre des Tribus qui partageoient l'Arabie, et dont les Auteurs nous ont rendu un compte exact dans leur Histoire et dans leurs Genealogies; de sorte qu'il passe pour un peuple

also known as the Burd of the Apostle of Allah * (upon whom be peace!). He resumes, "And from Aylah you march to Sharaf el-Baghl, and from the latter to Madyan, which is a large and populous city, with abundant springs and far-flowing streams of wholesome water; and gardens of flower-beds. Its inhabitants are a mixed race (*Akhlát min el-Nás*).† The traveller making Meccah from Aylah

étranger qui s'est établi parmi eux." Yet, as we have seen by the foregoing extracts, Madyan was reckoned within the territory of El-Medínah, *i.e.* the Hejaz.

Caussin de Perceval ("Essai sur l'Histoire des Arabs avant l'Islamisme") regards the old Midianites as one of the "Races éteintes;" and he makes them (vol. i. p. 23) descendants of Céthura, Abraham's second wife. In vol. ii. p. 232, he brings the Banu-Djodhám (Juzám) from El-Yemen, and settles them in the country of the ancient Midianites. He adds: "La region sur laquelle ils étaient répandus avec leurs frères les Benou-Lakhm, et, je crois aussi, avec les familles Codhaïtes, de Bali (Baliyy) et de Cayn, touchait par l'ouest à la Mer Rouge, par le nord au pays que les Romains appelaient troisième Palestine, par le sud aux déserts . . . par l'est, enfin, au territoire de Daumat-Djandal sur laquelle campaient les Benou-Kelb, tribu Codhaïte, alors Chrétienne, et alliée ou sujette des Romains." In vol. iii. p. 159, he recounts from the Táríkh el-Khamísí, and the Sírat el-Rasúl, how Zayd made an expedition against the "Djodhám (Juzám) established at Madyan on the coast of the Red Sea." The warrior captured a number of women and children who were exposed for sale, but the "Prophet," hearing the wails of the mothers, ordered that the young ones should not be sold apart from the parents.

* The "Burd," or "Burdah," was worn by Mohammed, as we know from a celebrated poem, for which see D'Herbelot, *sub voce* "Bordah."

† Michaud ("Hist. des Croisades," ii. 27) says: "Une fois

takes the shore of the Salt Sea, to a place called 'Aynúná (variant, *'Uyún*, plural of 'Ayn, an eye of water, a fountain): here are buildings and palm-clumps, and seeking-places (*Matalib:* see Lane for the authorities), in which men search for gold." Dr. Badger draws my attention to the last sentence, which seems also to have been noticed by Sprenger (Alt. Geog. p. 32).*

The following is from the Kitáb Asár el-Bitad ("Book of the Geographical Traditions of Countries"), by the far-famed Zakariyyá bin Mohammed bin Mahmúd, surnamed El-Kazwíní, who died A.H. 653 = A.D. 1255:—"Madyan" (p. 173, edidit. F. Wustenfeld, Göttingen, 1848) "is a city of the tribe (*Kaum*) of Shu'ayb (upon whom be peace!): it was founded by Madyan, son of Ibrahim, the Friend (of Allah), the grandfather of Shu'ayb. It exports the merchandise of Tabúk between El-Medinah and

qu'il (Saladin) fût mâitre de la capitale (Damascus); son armée victorieuse et l'or pur appelé Obreysum (Ubraysun ou Hubraysum) qu'il tirait de l'Égypte, lui soumirent les autres cités de la Syrie." The question is whether this gold was not from Midian: my friend Yacoub Artin Bey, who supplied me with the quotation, thinks that it was.

* The most curious form, perhaps, which the ancient Midianitic tradition has assumed, was in the thirteenth century, when the Russians believed that the Tartars, "with their four-cornered faces," were the ancient Midianites coming in the latter days to conquer the world. Lieutenant C. R. Conder, R.E. ("Tentwork in Palestine," Bentley, 1878), has done his best to rival this style of ethnology by declaring that "the hosts of Midian" were, no doubt, the ancestors of the modern Bedawin.

El-Shám (Damascus). In it is the well whence Musá (upon whom be peace!) watered the flocks of Shu'áyb, and it is said that the well is of great depth; and that over it is a building visited by (pious) men. This settlement Madyan is subject to the district of Tabaríyyah (Tiberias); and near it is the well, and at it a rock which Moses uprooted,* and which remains there to the present day."

The Imám Abú'l-Abbás Ahmed ibn 'Ali Takiyy el-Dín, better known as "El-Makrízi," wrote his book El-Mawáiz w'el-I'tibár fi' Zikr el-Khitat w'el-'Asár ("The Admonition and Examples in Commemorating Habitations and Traditions") in A.H. 825(= A.D. 1421), during the latter part of the second Mamlúk dynasty; and he brings down the history to the reign of Kansu Ghori, whose fort we shall see at El-'Akabah. He tells us (edition of Gottingen, 1848, Sahífah 48), "The loftiest mountain in Madyan is called Zubayr.† . . . It is also related that amongst the settlements of the (Madyanite)

* Alluding to the legend that the shepherds, after watering their flocks, rolled a great stone over the mouth of the well, so that the contents might not be used by Jethro's daughters. Musá waxed wroth, and, weak as he was with travel, gave the stone such a kick that it went flying full forty cubits from the spot. See "Desert of the Exodus," Appendix, p. 539.

† A name now unknown to the Bedawin of Madyan. The culminating peak is now supposed to be either the Shárr, the Jebel el-Lauz, or the Jebel Zánah.

tribe are the villages of Petræa (الحجر), namely, the Kúrat (circuit) of El-Tor, and Fárán (Pharan), and Ráyeh, and Kulzum, and Aylah (El-'Akabah) with its surroundings; Madyan with its surroundings; and Awíd and Haurá (Leukè-Kóme) with their surroundings, and Badá * and Shaghab." † He speaks of many ruined cities whose inhabitants had disappeared: forty, however, remained; some with, and others without, names. Between El-Hejaz and Egypt-Syria were sixteen cities, ten of them lying towards Palestine. The most important were El-Khalasah,‡ with its idol-temple destroyed by Mohammed, and El-Sanítah, whose stones had been removed to build Ghazzah (Gaza). The others were El-Mederah, El-Minyah, El-A'waj, El-Khuwayrak, El-Bírayn, El-Máayn, El-Sebá, and El-Mu'allak.§

The Marásid el-Ittílá' 'alá Asmá el-Amkanat w'el-Buká' ("Observations of Information on the

* The Badaïs of Ptolemy, which we shall presently visit.

† A large ruin east of Zibá, also visited.

‡ For a notice of El-Khalasah, also called El-Khulusah, El-Khulsah, or Zu'l-Khalasah, consult the art. "Midian," Smith's "Dict. of the Bible," by E. S. Poole, vol. ii. p. 356. For the Khalasah of the Negeb, "where Venus was worshipped with all the licentious pomp of the Pagan ritual," see Professor Palmer's "Desert of the Exodus," p. 385. The text, however, alludes to a ruin called El-Khulasah, one march from El-Muwaylah to the east (Chap. VIII.).

§ El-Mederah is possibly Hasíyat el-Madrá, which, like El-A'waj, El-Bírayn, and Ma'ín, is now included in Syria. El-Mu'allak may be Jebel Yalak,—at least, so say the Bedawin.

Names of Places and Countries"), which contains two dates in the body of the work, viz. A.H. 997 (= A.D. 1589) and A.H. 1168 (A.D. = 1755), and which is probably compiled from El-Kazwíní, says *sub voce* Madyan, after giving the "movement" of the word: "It is a city of the tribe of Shu'ayb, opposite Tabúk, and upon the sea of El-Kulzum, six stages (*Maráhil*) separating the two. It is larger than Tabúk, and in it is the well whence Moses watered the flocks of Shu'ayb." Finally, it repeats that Madyan is under the district of "Tabariyyá" or Tiberias* (vol. iii. p. 64, edidit. T. G. J. Juynboll, Lugduni Batavorum, 1854, e duobus Codd. MSS.).

I conclude this unpopular chapter with some remarks by Dr. Badger concerning the apparent connection of Jethro and El-Medínah: † "It struck me when studying 'Madyan,' which is the name of a place as well as of a man,‡ that 'Yáthrib,' the ancient term of al-Madínah, might have served the

* In the last remark, also found in El-Kazwíní, the Madyan of El-Shu'ayb is referred to the district of Tiberias. Thus it would belong to Syria, whilst the majority of geographers refer it to the Hejaz, and a minority to El-Yemen.

† Alluded to in a note to p. 331 of "The Gold-Mines of Midian," etc.

‡ This means only according to Hebrew and Arabic tradition, neither of them being, in this case, of much value. As I remarked before ("The Gold-Mines of Midian," p. 177), the hieroglyphic name of the land is Mádí, in the plural Mádí-án or Mádí-ná; on the other hand, we have no information concerning the origin and derivation of Mádí, except that it is not Egyptian.

same double purpose. At all events, it was singular to find a Yáthrib somewhere near Madyan, and that the word was not far removed from the יִתְרוֹ (Yithro), the name given in Hebrew to Moses' Midianite father-in-law. I also note that the Septuagint renders the Hebrew Yithro by Ἰοδόρ; the Peshîto by ܝܬܪܘܢ (Yathrûn), which the new Arabic version of the Bible, published at Bairút (Syria), follows; making it يثرون (Yáthrûn). The name in Hebrew (Exod. iv. 18) is also written יֶתֶר (Yether).

"My theory is this. Firstly, there is no dependence to be placed on the Masoretic points, especially when affixed to names of places. Secondly, we have no certain knowledge of the language used by the Midianites in those ancient times. Their territory extended northwards towards Palestine, and from their very intimate relations with the Israelites, as friends and as enemies, both nations appear to have understood each other perfectly. May not their language, then, have been a dialect of the Aramean? * If so, the יִתְרוֹ (Yithro) of the Bible might have been יתרב (Yithrab, Yathrib, etc.). Instances of the apocopated ב (b) are common in the Chaldean or Syro-Chaldaic at the present day;

* None of the tribes or families now inhabiting Midian represent the ancient Midianites; and all speak the vulgar half-Fellah Arabic, without any difference of accent or vocabulary from their neighbours.

e.g. ܝܗܒܐܠܗ (Yáheb Alaha) is pronounced *Yáu-Alaha*; ܝܫܘܥܝܒ (Yashuá'-yaheb) becomes *Yashuá'-yau*, etc., the final Beth ܒ (b) or the ܗܒ (heb) being converted into a ܘ (w). Hence why may not יִתְרוֹ (Yithro) have been originally יתרב (Yithrab or Yathrib)? Of course, this is only a conjecture of mine."

Mr. E. Stanley Poole (*loc. cit.*) says that the Arabs dispute whether the name "Medyen" be foreign or Arabic; and whether "Medyen" spoke Arabic. He considers the absurd enumeration of the alphabetical kings (El-Mas'údi, quoted above) to be curious, as possibly containing some vague reference to the language of Midian. When these kings are said contemporaneously to have ruled over Meccah, Western Nejd, Yemen, "Medyen," Egypt, etc., it is extremely improbable that Midian ever penetrated into Yemen, notwithstanding the hints of Arab authors to the contrary. Yákút el-Hamawi (born A.H. 574 or 575 = A.D. 1178–79, and died A.H. 626 = A.D. 1228), in the Mu'jam el-Buldán (cited in the *Journ. of the Deutsch. Morgen. Gesellschaft*), declares that a South Arabic dialect is of Midian, and El-Mas'údi (*apud* Schultens, pp. 158–159) inserts a Midianite king among the rulers of Yemen. The latter, however, is more probable than the former; it may be an accidental and individual, not a material occurrence.

The following list of ruins, some cities, others towns, were all, with two exceptions (Nos. 2 and 18), visited or explored by the second Khedivial Expedition. The Mashghal, *ateliers* or subsidiary workshops, were in cases learned only by hearsay :—

1. Old 'Akabah (Aylah) Mashghal, up Valley el-Yitm. 3.

2. El-Hakl (pronounced "Hagul"), the Ἀγκάλη of Ptolemy: it was seen from the sea, and notes were taken of its ruins and furnaces.

3. Nakhil Tayyib Ism, in mountain of the same name: its ruined dam (?) and buildings were surveyed by Lieutenant Amir.

4. Makná. Twice visited.

5. Magháir Shu'ayb. Two *ateliers* inspected, and one heard of on the Jebel el-Lauz: total, 3.

6. 'Aynúnah. In Jebel Zahd (ruins and furnaces). 1.

7. Sharmá. An *atelier* on the Jebel Fás, and another on the Jebel Harb, both high up: total, 2.

8. Tiryam. An *atelier* in the Wady Urnub. 1.

9. Abu Hawáwít, near El-Muwaylah. Scoriæ found about the fort of El-Muwaylah and near Sharm Yáhárr. 2.

10. Zibayyib in Wady Surr. *Atelier* Sayl Umm Laban (Wady Sadr). 1.

11. Khulasah.* Saw specimens of worked metal from Wady Kh'shabríyyah, and the upper Wady Surr; also ruins in the Sayl Abú Sha'r, south-west and seawards of the Shárr block.

12. Má el-Bada', *alias* Diyár el-Nasárá, in the upper Wady Dámah.

13. Shuwák, the Σόακα of Ptolemy. *Atelier* in Jebel el-Sáni'. 1.

14. Shaghab, another large city mentioned by El-Makrízi.

15. Ruins of El-Khandakí. Broken quartz, and made road at El-Kutayyifah; two other *ateliers* in Wady Ruways to the west: total, 3.

16. Umm Amil. Near it an *atelier* still called El-Dayr, or the Convent. 1.

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* See the preceding notes on El-Makrízi.

17. Zibá, old town ; Umm Jirmah to the north. 1.

18. Majirmah (pronounced M'jirmah), one day's march south of Zibá. Large ruins, supposed to have been the classical Rhaunathos.

Thus, besides a total of eighteen ruins, more or less extensive, twenty *ateliers* were seen or heard of; making up a total of thirty-eight—not far removed from the forty traditional settlements of the mediæval Arab geographers.

In the plateau of New Red Sandstone called El-Hismá, ruins and inscriptions are said to be found at the Jebel Rawiyán, whose Wady is mentioned by Wallin (p. 308) ; at Ruáfá, between the two hills El-Rakhamatayn ; and at sundry other places, which we were unable to visit. Beyond the Hismá I also collected notices of El-Karáyyá, large ruins first alluded to by Wallin (p. 316).*

During our exploration of the region below El-Muwaylah (my Southern Midian), and our cruise to El-Haurá, the following sites were either seen or reported :—

1. Ruins in the Wady Dukhán, south of the Wady el-Azlam : north of El-Wijh.

2. El-Nabaghah, in the Wady el-Marrah : north of El-Wijh.

3. Ruins, furnaces and quartz-strews, in the Fara't Lebayyiz.

4. El-Wijh, the port of Strabo's "Egra" (?).

5. Inland fort of El-Wijh ; an old metal-working ground.

6. The great mine and ruins, Umm el-Karayyát, everywhere surrounded by *ateliers*.

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* The Ma'ázah spoke of *Kanátir* (arches, *i.e.* aqueducts) and *Bibán* (doors or catacombs).

7. El-Kubbah, a small isolated ruin to the east of No. 6.

8. El-Khaur, a working-place to the west of No. 6.

9. The large works called Umm el-Haráb, with two ruined *ateliers* near them.

10. Aba'l-Gezáz, a working-place in the watercourse of the same name, an upper branch of the Wady Salbah.

11. The fine plain of Badá, with the Mashghal el-'Arayfát heard of to the north.

12. Marwát, ruins on a ridge near Badá, and signs of a settlement in the valley. In the Wady Laylah, remains also spoken of.

13. Aba'l-Marú, probably the Zu'l-Marwah of Bilázurí; extensive remains of buildings; a huge reef of quartz, carefully worked, and smaller ruins further down the valley.

14. The classical temple or tomb on the left bank of the great Wady Hamz, dividing Southern Midian from El-Hejaz in the Turkish dominions.

15. Large remains, in two divisions, at El-Haurá.*

Concerning the *ateliers*, details will be found in the following pages. Many of them suggest a kind of compromise between the camps and settlements

* I inquired in vain concerning the ruins near Sharm Burayttah, south of Yambú' in the Harb country. Wellsted, who visited the site (II. xi.), conjectures them to be Niebuhr's "El-Jár." He makes that near the point "as large as Yembo, extending about a mile in length, and half that space in breadth, with a square fort in the vicinity, the remains of which have towers at the corners and gates." Near the middle on either side, the tall walls are six feet thick, strong enough where artillery is unknown. At the landing-place are a quay paved with large hewn stones, and a jetty of solid masonry in ruins. The sailors dug and found only shapeless fragments of corroded copper and brass; coloured glass, as usual more opaque than the modern, and earthenware of the kind scattered about Egyptian ruins. About one mile from the fort were other remains, built of coral, now much blackened by exposure; and similar constructions on the further side of the Sharm could not be examined, as the Harb Bedawin were jealous and hostile.

of the Stone Age, where, *e.g.* at Pressigny and Grimes' Graves, the only remnant of man is a vast strew of worked silexes; and the wandering fraternity of Freemasons who hutted themselves near the work in hand. And I would here lay special stress upon my suspicion that the ancestors of the despised Hutaym may have been the Gypsy-caste that worked the metals in Midian.

For the date of the many ruins which stud the country, I will assume empirically that their destruction is coeval with that of the Christian Churches in Negeb, or the South Country,* that adjoins Midian Proper on the north-west. It may date from either the invasion of Khusrau Anúshírawán, the conquering Sassanian King Chosroes (A.D. 531—579); or from the expedition, sent by the Caliph Omar and his successors, beginning in A.D. 651. But, as will appear in the course of these pages, there was a second destruction; and that evidently dates from the early sixteenth century, when Sultán Selim laid out his maritime road for the Hajj-caravan. Before that time the Egyptian caravans, as will be seen, marched inland, and often passed from Midian to El-Hijr.

* The name is from Gen. xx. 1, and it signifies the country lying to the south of Palestine. See "The Negeb," by the late Rev. E. Wilton (London, 1863), and vol. ii. "The Desert of the Exodus," so often alluded to in these pages.

CHAPTER V.

WORK AT, AND EXCURSIONS FROM, MAGHÁIR SHU'AYB.

By the blessing of Nebi Shu'ayb and a glance from his eyrie, I at once suspected that the western Shigd was the "Mountain on a mountain" alluded to by Haji Wali;* and, on January 12, 1878, I ascertained that such was the case. The old man had given me a hand-sketch of the most artless, showing a gorge between two rocks, a hill of two stages to the left or west, and a couple of Wadys draining it to the sea; one (Wady Makná) trending north-west, and the other (Wady 'Afál) south-west. The word "Ishmah," affixed to the northern part of the route, is evidently the Hismá plateau, and not, as I had supposed it to be, the Jebel Tayyib Ism.

Nor had we any difficulty in discovering Haji Wali's tree, a solitary Mimosa to the right of the caravan-track, springing from the sands of the Shigdawayn gorge. The latter is formed by the sister-

* "The Gold-Mines of Midian," Chap. IX.

blocks before alluded to. The western Shigd, on the right of the Wady 'Afál, is composed of carbonate of lime and sandstones dyed with manganese, the whole resting upon a core of grey granite; the formation is the same as the eastern feature, but the lines of the latter are gentler, and the culminating tower is wanting.

The western Shigd, indeed, is sufficiently peculiar. It is the southern apex of a short range, numbering some four heads: the eastern flank discharges the Wady Kizáz, which feeds the 'Afál; and the western the Wady Makná. The summit of the broken and spiny cone is a huge perpendicular block, apparently inaccessible as a tower, and composed of the dull yellow ferruginous conglomerate called "El-Safrá:" the tint contrasts strongly with a long line of bright white *Rugham* (gypsum), bisecting the head of the Wady Makná. Below the apex is a thick stratum of manganese-stained rock: the upper line, with a dip of 15° towards the main valley, looks much like a row of bulwarks which had slipped from the horizontal, while still bluff between the north-east and east. Indeed, the shape is so regular that M. Lacaze, at first sight, asked if it was *une construction.*

As soon as the washing-trough was brought up from Sharmá, we opened operations by digging a trench, at least twelve feet deep, in the re-entering

angle of the bed close to the Mimosa tree. The sand, pink above and chloritic yellow below, ended in a thick bed of water-rolled pebbles, not in ground-rock; nor did it show the couch of excellent clay which usually underlies the surface, and which, I have said, is extracted through pits to make sun-dried brick, swish, and other building materials. We also secured some of the blood-red earth from the eastern tail of the northern "Shigd," the manganese-stained *Tauá* and the gravelly sand washed out of the *Cascalho*-gravel, the latter very promising. The result of our careless working, however, was not successful; the normal ilmenite, black sand of magnetic iron, took the place of gold-dust. And this unlooked-for end again made us suspicious of my old friend's proceedings: the first occasion was that of his notable "malingering." Had he bought a pinch of "Tibr" (pure gold) from the Bedawin, and mixed it with the handful of surface stuff? Had the assayer at Alexandria played him a trick? Or had an exceptionally heavy torrent really washed down auriferous "tailings"? I willingly believe the latter to have been the case; and we shall presently see it is within the range of possibility. Traces of gold were found by Lieutenant-Colonel W. A. Ross, through his pyrological process, in the sandy clays brought from the mouth of Wady Makná.

Meanwhile, despite our magnificent offers, the

Arabs managed to keep inviolate their secret—if they had one. An old man, now a rich merchant and householder at Suez, had repeatedly declared to Mr. A. G. K. Levick, that in his young days the Bedawin washed gold in Midian, till the industry fell into disrepute. During my last visit he was unfortunately absent upon a pilgrimage; after our return he asserted that he had sent for specimens of the sand, but that it paid too little even for transport. This 'Abd el-Hámid el-Shámi, interviewed, after our return, by Mr. Clarke, declared more than once, and still declares, that many years ago he obtained from the Wady Zibá, behind the settlement, a certain quantity of reddish sand which appeared auriferous. He roasted and washed the contents of three small baskets called "Coffas" * by Europeans; and this yielded a pinch of "what looked like pure gold."

In camp our men spoke freely of Tibr stored in quills, carried behind the ear, and sold at Suez—not at Cairo for fear of consequences. Yet neither promises nor bribes would persuade the poorest to break through the rule of silence. The whole might have been a *canard:* on the other hand, there was also a valid reason for reticence; the open mouth would not long have led to a sound throat. So our many informants contented themselves with

* *Kúfah* (كوفه or قوفه) in Persian means a basket or a coffin.

telling us frequent tales of gold ornaments picked up after rain; they showed us a ring made from a bit found on the Tabúk road, and they invariably assure us that we shall find wondrous things—about the next station.

At Magháir Shu'ayb we wasted a whole fortnight (January 11—24, 1878) in vain works; and I afterwards bitterly repented that the time had not been given to South Midian. Yet the delay was pleasant enough, after the month which is required to acquire, or to recover, the habit of tent-life. The halting-day was mostly spent as follows:—At six a.m., and somewhat later on cold mornings, the *Boruji* sounds his *réveillé—Kum, yá Habíbí, sáh el-Naum* ("Rise, friend! sleep is done"), as the Egyptian officers interpret the call. A curious business he makes of it, when his fingers are half frozen; yet Bugler Mersál Abú Dunya is a man of ambition, who persistently, and despite the coarse laughter of Europeans, repairs for quiet practising to the bush. We drink tea or coffee made by Engineer Ali Marie, or by Quartermaster Yusuf, not by Europeans; two camels supply us with sweet milk; butter we have brought; and nothing is wanted for complete comfort but bread.

We then separate to our work, after telling off the quarrymen to their several tasks. Inveterate idlers and ne'er-do-weels, their only object in life is not to labour; a dozen of them will pass a day in

breaking ten pounds' weight of stone. They pound in the style of the Eastern tobacconist, with a very short stroke and a very long stay. At last they burst the sieves in order to enjoy a quieter life. They will do nothing without superintendence; whilst the officer is absent they sit and chat, smoke, or lie down to rest; and they are never to be entrusted with a water-skin or a bottle of spirits. The fellows will station one of their number on the nearest hill, whilst their comrades enjoy a sounder sleep; they are the greatest of cowards, and yet none would thus have acted sentinel even in the presence of the enemy. These useful articles all expect a liberal "bakhshísh" when the journey is done, with the usual Asiatic feeling: they know that they deserve nothing, but my "dignity" obliges me to largess. On this occasion it did not.

Those told off to dig prefer to make a deep pit, because fewer can work together at it, rather than scrape off and sift the two feet of surface which yield "antíkás." They rob what they can: every scrap of metal—stylus, manilla, or ring—is carefully tested, scraped, broken or filed, in order to see whether it be gold. Punishment is plentifully administered, but in vain; we cannot even cure their unclean habits of washing in and polluting the fountain source. Three Europeans would easily do the work of these thirty poor devils.

Mr. Clarke is our camp-manager in general: he is also our *jäger;* he shoots the wild poultry, duck and partridge, sand-grouse, and "Bob White" the quail, for half our dinners; and the Arabs call him the "Angel of Death belonging to the Birds." He failed to secure a noble eagle in the Wady 'Afál, whose nest was built upon an inaccessible cliff: he described the bird as standing as high as our table, and with a width of six to seven feet from wing to wing. He also brought tidings of a large (horned?) owl, possibly the same species as the fine bird noted at Sinai. The Arabs call it classically Búmah, and vulgarly Umm Kuwayk ("Mother of Squeaking"): the Fellahin believe that it sucks out children's eyes, and hence their name, "Massásah." Here, as in the Sinaitic Peninsula, "the owl and the hyena are used as charms; and the burnt feathers of the former, and the boiled flesh of the latter (superior filth!), are considered as infallible specifics for numerous disorders." In other parts of Arabia the hooting of the owl portends death; and the cry, *Fát—fát,* is interpreted, "He is gone, gone."

The two Staff-officers make plans and sketches of the new places, or they protract their field-books, working very hard and very slowly. I have but little confidence in their route-surveys: sights are taken from mule-back, and distances are judged by the eye. True, the protractions come out well, but

this is all the worse, suggesting the process commonly called "doctoring." For the style of thing, however, "dead reckoning" did well enough.

M. Lacaze is the most ardent. Accompanied by his favourite orderly, Salámat el-Nahhás, an intelligent negro from Dár-For, he sets out after breakfast with a bit of bread, a flagon of water, a tent-umbrella, and his tools, which he loses with remarkable punctuality, to spend the whole day sketching, painting, and photographing. M. Philipin is our useful man: he superintends the washing-cradle; he wanders far and wide, gun in hand, bringing us specimens of everything that strikes the eye; and he is great at his forge: the Bedawin sit for hours, gazing attentively as he converts a file into a knife, and illustrating the reverence with which, in early days, men regarded Vulcan and Wayland Smith.

At eleven a.m. the bugle sounds *Tijrí taakul!* ("Run and feed"), a signal for *déjeuner à la fourchette.* It is a soup, a stew, and a *Puláo* ("pilaff") of rice and meat, sheep or goat, the only provisions that poor Midian can afford, accompanied by onions and garlic, which are eaten like apples, washed down with *bon ordinaire;* followed by cheese when we have it, and ending with tea or coffee. George the cook proves himself an excellent man when deprived of oil and undemoralized by contact with his fellow Greeks. After feeding, the idlers, who have slum-

bered, or rather have remained in bed, between eight p.m. and six to seven a.m., generally manage a couple of hours' siesta, loudly declaring that they have been wide awake. One of the party seems to live by the blessing of him who invented sleep, and he is always good for half of the twenty-four hours —how *they* must envy him whose unhappy brains can be stupefied only by poisonous chloral!

At two p.m., after drinking tea or coffee once more, we proceed to another four hours' spell of work. As sunset and the cold hours draw near, all assemble about the fire, generally two or three huge palm-trunks, whose blaze gladdens the soul of the lonely night-sentinel; and, assembling the Shaykhs of the Arabs, we gather from them information geographical, historical, and ethnological. The amount of invention, of pure fancy, of airy lying, is truly sensational; while at the same time they conceal from us everything they can; and, more especially, everything we most wish to know. Firstly, they do not want us to spy out the secrets of the land; and, secondly, they count upon fleecing us through another season. During the whole day, but notably at this hour, we have the normal distractions of the Arabian journey. One man brings, and expects "bakhshísh" for, a bit of broken metal or some ridiculous stone; another grumbles for meat; and a third wants tobacco, medicine, or something to be had for the

asking. I am careful to pay liberally, as by so doing the country is well scoured.

Dinner, at seven p.m., is a copy of what was served before noon. It is followed by another sitting round the fire, which is built inside the mess-tent when cold compels. At times the conversation lasts till midnight; and, when cognac or whisky is plentiful, I have heard it abut upon the Battle of Waterloo and the Immortality of the Soul. *Piquet* and *écarté* are reserved for life on board ship. Our only reading consists of newspapers, which come by camel-post every three weeks; and a few "Tauchnitz," often odd volumes. I marvel, as much as Hamlet ever did, to see the passionate influence of the story-teller upon those full-grown children, bearded men; to find them, in the midst of this wild new nature, so utterly absorbed by the fictitious weal and woe of some poor creature of the author's brain, that they neglect even what they call their "meals;" allow their "teas" to cool, and strain their eyesight poring over page after page in the dim light of a rusty lantern. Thus also the Egyptian, after sitting in his *café* with all his ears and eyes opened their widest, whilst the story-teller drones out the old tale of Abú Zayd, will dispute till midnight, and walk home disputing about what, under such and such circumstances, they themselves would have done. To me the main use of "Tauchnitz" was to make

Arabia appear the happier, by viewing, from the calm vantage-ground of the Desert, the meanness and the littlenesses of civilized life—in novels.

The marching-day is only the halting-day in movement. By seven a.m. in winter and four a.m. in spring, we have breakfasted and are ready to mount mule or dromedary; more generally, however, we set out, accompanied by the Sayyid and the Shaykhs, for a morning walk. The tents and, most important of all, the tent-table are left to follow under the charge of the Egyptian officers, who allow no dawdling. With us are the cook and the two body-servants, riding of course: they carry meat, drink, and tobacco in my big tin cylinder intended to collect plants; and they prefer to give us cold whilst we fight for hot breakfasts. After resting between ten a.m. and noon in some shady spot, generally under a thorn, we ride on to the camping-ground, which we reach between two and three p.m. This is the worst part of the day for man and beast, especially for the mules—hence the necessity of early rising.

The average work rarely exceeds six hours (= eighteen to twenty miles). Even this, if kept up day after day, is hard labour for our *montures*, venerable animals whose chests, galled by the breast-straps, show that they have not been broken to the saddle. Accustomed through life to ply

in a state of semi-somnolence, between Cairo and the Citadel, they begin by proving how unintelligent want of education can make one of the most intelligent of beasts. They trip over every pebble, and are almost useless on rough and broken ground; they start and swerve at a man, a tree, a rock, a distant view or a glimpse of the sea; they will not leave one another, and they indulge their pet dislikes: this shies at a camel, that kicks at a dog. Presently *Tamaddun*, as the Arabs say, "urbanity," or, more literally, being "citified," asserts itself, as in the human cockney; and at last they become cleverer and more knowing than any country-bred. They climb up the ladders of stone with marvellous caution, and slip down the slopes of sand on their haunches; they round every rat-hole which would admit a hoof; and they know better than we do where water is. They are not always well treated; the "galloping griff" is amongst us, who enjoys "lambing" and "bucketing" even a half-donkey. Of course, the more sensible animal of the two is knocked up; whilst the rider assumes the airs of one versed in the *haute école*. The only difficulty, by no fault of the mules, was the matter of irons: shoeless they could travel only in sand; and, as has been said, the farrier was forgotten.

Amongst our recreant Shaykhs I must not include Furayj bin Rafí'a el-Huwaytí, a man of

whom any tribe might be proud, and a living proof that the Bedawi may still be a true gentleman. A short figure, meagre of course, as becomes the denizen of the Desert, but "hard as nails," he has straight comely features, a clean dark skin, and a comparatively full beard, already, like his hair, waxing white, although he cannot be forty-five. A bullet in the back, and both hands distorted by sabre-cuts, attempts at assassination due to his own kin, do not prevent his using sword, gun, and pistol. He is the *'Agíd* of the tribe, the African "Captain of War;" as opposed to the civil authority, the Shayhk, and to the judicial, the Kázi. At first it is somewhat startling to hear him prescribe a slit weasand as a cure for lying; yet he seems to be known, loved, and respected by all around him, including his hereditary foes, the Ma'ázah. He is the only Bedawi in camp who prays. Naturally he is a genealogist, rich in local lore. He counteracts all the intrigues by which that rat-faced little rascal, Shaykh Hasan el-'Ukbi, tries to breed mischief between friends. He is a walking map; it would be easy to draw up a rude plan of the country from his information. He does not know hours and miles, but he can tell to a nicety the comparative length of a march; and, when ignorant, he has the courage to say *M'adri*, "don't know." He never asked me for anything, nor told a lie, nor even hid

a water-hole. Willing and ready to undertake the longest march, the hardest work, his word is *Házir* —"I'm here"—and he will even walk to mount a tired man. Seated upon his loud-voiced little Hijn,* remarkable because it is of the noble Bishári strain, bred between the Nile and the Red Sea, he is ever the guide in chief. At last it ends with *Nádi Shaykh Furayj!*—"Call Shaykh Furayj"—when anything is to be done, to be explained, to be discovered. I would willingly have recommended him for the chieftainship of his tribe, but he is not wealthy; he wisely prefers to see the dignity in the hands of his cousin 'Alayán, who, by-the-by, is helpless without him. He remained with us to the end: he seemed to take a pride in accompanying the expedition by sea to El-Haurá, and by land to the Wady Hamz, far beyond the limits of his tribe. When derided for mounting a pair of Government "bluchers," tied over bare feet, with bits of glaring tassel-string from his camel-saddle, he quoted the

* Roaring when the rider mounts, halts, or dismounts, is considered a proof of snobbish blood among the Bisharín: for some months the camel-colt is generally muzzled on such occasions till it learns the sterling worth of silence.

For an admirable description, far too detailed to place before the general public, of the likeness and the difference between the dromedary of the Bisharín and the Nu'maní and Maskatí, the purest blood of the Arabs, see pp. 145—154, "L' Etbaye, etc., *Mines d Or*," by my old friend Linant de Bellefonds Bey, now Sulayman Pasha. Paris: Arthus Bertrand (no date).

proverb, "Whoso liveth with a people forty days becomes of them." We parted after the most friendly adieu, or rather *au revoir*, and he was delighted with some small gifts of useful weapons :— I wonder whether Shaykh Furayj will prove "milk," to use Sir Walter Scott's phrase, "which can stand more than one skimming.

In such wild travel, the traveller's comfort depends mainly upon weather. Usually the air of Magháir Shu'ayb was keen, pure, and invigorating, with a distinct alternation of land-breeze by night, and of sea-breeze by day. Nothing could be more charming than the flushing of the mountains at sunrise and sunset, and the magnificence of the windy, wintry noon. The rocky spires, pinnacles, and domes, glowing with gorgeous golden light, and the lower ranges, shaded with hazy blue, umber-red, and luminous purple, fell into picture and formed prospects indescribably pure and pellucid. But the average of the aneroid (29·19) gave an altitude of eight hundred feet; and even in this submaritime region, the minimum temperature was 42° F., ranging to a maximum of 85° F. in the shade. These are extremes which the soft Egyptian body, reared in the house or the hut, could hardly support.

Darwaysh Effendi followed suit after Yusuf Effendi; it was a study to see him swathed to the

nose, bundled in the thickest clothes, with an umbrella opened against the sun, and with a soldier leading his staid old mule. Bukhayt Ahmar and several of the soldiers were laid up; Ahmed Kaptán was incapacitated for work by an old and inveterate hernia, the effect, he said, of riding his violent little beast; and a sound ague and fever, which continued three days, obliterated in my own case the last evils of Karlsbad. We had one night of rain (January 15), beginning gently at 2.30 a.m., and ending in a heavy downfall—unfortunately a pluviometer was one of the forgotten articles. Before the shower, earth was dry as a bone; shortly after it, sprouts of the greenest grass began to appear in the low places, and under the shadow of the perennial shrubs. The cold damp seemed to make even the snakes torpid: for the first time in my life I trod upon one—a clairvoyante having already warned me against serpents and scorpions. There were also bursts of heat, ending in the normal three grey days of raw piercing norther; and followed by a still warmer spell. Upon the Gulf of El-'Akabah a violent gale was blowing. On the whole the winter climate of inland Midian is trying, and a speedy return to the seaboard air is at times advisable, while South Midian feels like Thebes after Cairo. The coast climate is simply perfect, save and except when El-Aylí, the storm-wind from 'Akabat Aylah,

is abroad. My meteorological journal was carefully kept, despite the imperfection of the instruments. Mr. Clarke registered the observations during my illness; Mr. Duguid and Násir Kaptán made simultaneous observations on board the ships; and Dr. Maclean kindly corrected the instrumental errors after our return to Cairo.*

I had proposed to march upon the Hismá, or sandy plateau to the east, which can be made from Magháir Shu'ayb without the mortification of a *Nakb*, or ladder of stone. Thereupon our Tagaygát-Huwaytát Shaykhs and camel-men began to express great fear of the 'Imran-Huwaytát, refusing to enter their lands without express leave and the presence of a *Ghafír* ("surety"). Our caravan-leader, the gallant Sayyid, at once set off in search of 'Brahim bin Makbúl, second chief of the 'Imrán, and recognized by the Egyptian Government as the *avocat*, spokesman and diplomatist, the liar and intriguer of his tribe. This man was found near El-Hakl (Hagul), two long marches ahead: he came in readily enough, holding in hand my kerchief as a pledge of protection, and accompanied by three petty chiefs, Musallam, Sa'd, and Muhaysin, all with an eye to "bakhshísh." In fact, every naked-footed "cousin," a little above the average clansman,

* The contents worked into shape by Mr. William J. Turner, of the Royal Geographical Society, appear in the Appendix.

would call himself a Shaykh, and claim his *Mushâhirah*, or monthly pay; not a cateran came near us but affected to hold himself dishonoured if not provided at once with the regular salary. 'Brahim was wholly beardless, and our Egyptians quoted their proverb, *Sabáh el-Kurúd, wa lá Sabán el-'Ajrúd*—"Better (see ill-omened) monkeys in the morning than the beardless man." As the corruption of the best turns to the worst, so the Bedawi, a noble race in its own wilds, becomes thoroughly degraded by contact with civilization. I remember a certain chief of the Wuld Ali tribe, near Damascus, who was made a Freemason at Bayrút, and the result was that "brother" Mohammed became a model villain.

By way of payment for escort and conveyance to the Hismá, 'Brahim expected a recognition of his claim upon the soil of Magháir Shu'ayb, which belongs to the wretched Masá'íd. He held the true Ishmaelitic tenet, that as Sayyidná (our Lord) Ádam had died intestate, so all men (Arabs) have a right to all things, provided the right can be established by might. Hence the saying of the Fellah, "Shun the Arab and the itch." Thus encouraged by the Shaykhs, the "dodges" of the clansmen became as manifold as they were palpable. They wanted us to pay for camping-ground; they complained aloud when we cut a palm-frond for palms, or used a

rotten fallen trunk for fuel. They made their sheep appear fat by drenching them with water. The people of the Fort el-Muwaylah, determined not to *déroger*, sent to us, for sale, the eggs laid by our own fowls. And so forth.

Presently 'Brahim brought in his elder brother, Khizr bin Makbúl, about as ill-conditioned a "cuss" as himself. Very dark, with the left eye clean gone, this worthy appeared pretentiously dressed in the pink of Desert fashion—a scarlet cloak, sheepskin-lined, and bearing a huge patch of blue cloth between the shoulders; a crimson caftan, and red morocco boots with irons resembling ice-cramps at the heels. Like 'Brahim, he uses his Bákúr, or crooked stick, to trace lines and dots upon the ground; similarly, the Yankee whittles to hide the trick that lurks in his eyes. Khizr tents in the Hismá, and his manners are wild and rough as his dwelling-place; possibly manly, brusque certainly, like the Desert Druzes of the Jebel Haurán. He paid his first visit when our Shaykhs were being operated upon by the photographer: I fancied that such a novelty would have attracted his attention for the moment. But no: his first question was, *Aysh 'Ujratí?*—"What is the hire for my camels?" Finally, these men threw so many difficulties in our way, that I was compelled to defer our exploration of the eastern region to a later day.

After a week of washing for metals at Magháir Shu'ayb, it was time to move further afield. On January 17th, the Egyptian Staff-officers rode up the Wady 'Afál, and beyond the two pyramidal rocks of white stone, which have fallen from the towered "Shigd," they found on its right bank the ruins of a small *atelier*. It lies nearly opposite the mouth of the Wady Tafrígh, which is bounded north by a hill of the same name; and south by the lesser "Shigd." Beyond it comes the Wady Nimir, the broad drain of the Jibál el-Nimir, "Hills of the Leopard," feeding the 'Afál: the upper valley is said to have water and palms. After a "leg" to the north-east (45° mag.), they found the 'Afál running from due north; and one hour (= three miles) led them to other ruins on the eastern side of the low hills that prolong to the north the greater "Shigd." The names of both sites were unknown even to Shaykh Furayj. The foundations of uncut boulders showed a semicircle of buildings measuring 229 paces across the horseshoe. They counted eleven tenements—probably occupied by the slave-owners and superintendents—squares and oblongs, separated by intervals of from forty-five to ninety-seven or a hundred paces. On the north-north-east lay the chief furnace, a parallelogram of some twenty-three paces, built of stone and surrounded by scatters of broken white quartz and scoriæ. These two workshops

seem to argue that the country was formerly much better watered than it is now. Moreover, it convinced me that the only rock regularly treated by the ancients, in this region, was the metallic *Marú* (quartz).

I had heard by mere chance of a "White Mountain," at no great distance, in the mass of hills bounding to the north the Secondary formations of Magháir Shu'ayb. On January 21st, M. Marie and Lieutenant Amir were detached to inspect it. They were guided by the active Furayj and a Bedawi lad, Hamdán of the Amírát, who on receiving a "stone dollar" (*i.e.* silver) could not understand its use. Travelling in a general northern direction, the little party reached their destination in about three hours (= nine miles). They found some difficulty in threading a mile and a quarter of very ugly road, a *Nakb*, passing through rocks glittering with mica; a ladder of stony steps and overfalls, with angles and zigzags where camels can carry only half-loads. The European dismounted; the Egyptian, who was firm in the saddle, rode his mule the whole way. We afterwards, however, explored a comparatively good road, *viâ* the Wady Murákh, to the seaboard, which will spare the future metal-smelter much trouble and expense.

The quartz mountain is, like almost all the others, the expanded mushroom-like head of a huge *filon* or

vein; and minor *filets* thread all the neighbouring heights. The latter are the foot-hills of the great Jebel Zánah, a towering, dark, and dome-shaped mass clearly visible from Magháir Shu'ayb. This remarkable block appeared to me the tallest we had hitherto seen; it is probably the "Tayyibat Ism, 6000," of the Hydrographic Chart. The travellers ascended the Jebel el-Marú, trembling the while with cold; and from its summit, some fifteen hundred feet above sea-level, they had a grand view of the seaboard and the sea. They brought home specimens of the rock, and fondly fancied that they had struck gold: it was again that abominable "crow-gold" (pyrites), which has played the unwary traveller so many a foul practical joke.

During our stay at Magháir Shu'ayb the camp had been much excited by Bedawi reports of many marvels in the lands to the north and the north-east. The Arabs soon learned to think that everything was worth showing: they led M. Lacaze for long miles to a rock where bees were hiving. A half-naked 'Umayri shepherd, one Suwayd bin Sa'íd, had told us of a *Hajar masdúd* ("closed stone") about the size of a tent, with another of darker colour set in it; the Arabs had been unable to break it open, but they succeeded with a similar rock in the Hismá, finding inside only Tibn ("tribulated straw") and charcoal. Another had seen a *Kidr*

Dahab ("golden pot"), in the 'Aligán section of the Wady el-Hakl (Hagul) where it leaves the Hismá; and a matchlock-man had brought down with his bullet a bit of precious metal from the upper part. This report prevails in many places: it may have come all the way from "Pharaoh's Treasury" at Petra, or from the Sinaitic Wady Lejá. At the mouth of the latter is the Hajar el-Kidr ("Pot-rock"), which every passing Arab either stones or strikes with his staff, hoping that the mysterious utensil will burst and shed its golden shower. Moreover, a half-witted Ma'ázi, by name Masá'íd, had tantalized us with a glorious account of the "House of 'Antar" in the Hismá, and the cistern where that negro hero and poet used to water his horses. Near its massive walls rises a *Hazbah* ("steep and solitary hillock") with *Dims* or layers of ashlar atop: he had actually broken off a bit of greenstone sticking in the masonry, and sold it to a man from Tor (Khwájeh Kostantin?) for a large sum—two napoleons, a new shirt, and a quantity of coffee. A similar story is found in the Bádiyat el-Tíh, the Desert north of the Sinaitic Peninsula. At the ruined cairns of Kharábat Lussán (the ancient Lysa), an Arab saw a glimmer of light proceeding from a bit of curiously cut stone. "This he carried away with him and sold to a Christian at Jerusalem for three pounds." *

* "Desert of the Exodus," p. 347.

Shaykh 'Brahím had also heard of this marvel; but he called it the *Haráb 'Antar* ("Ruin of 'Antar"), and he placed it in the Wady el-Hakl, about an hour's ride south of the Wady 'Afál. Finally, a tablet in the Wady Hawwayi', adorned with a dragon and other animals, was reported to me; and the memory of inscriptions mentioned in the Jihan-numá was still importunate. Evidently all these were mere fancies; or, at best, gross distortions of facts. The Bedawin repeat them in the forlorn hope of "bakhshísh," and never expect action to be taken: next morning they will probably declare the whole to be an invention. Yet it is never safe to neglect the cry of "wolf": our most remarkable discovery, the Temple at the Wady Hamz, was made when report promised least.

Accordingly, on January 24th, I despatched, with Shaykhs Khizr and 'Brahím as guides, Mr. Clarke and the two Staff-lieutenants towards El-Rijm, the next station of the pilgrim-caravan. Riding up the Wady 'Afál, they reached, after an hour and three-quarters, the ruins known as Igár Muás—a name of truly barbarous sound. The settlement had occupied both banks, but the principal mass was on the left: here two blocks, separated by a hillock, lay to north-east and south-west of each other. Apparently dwelling-places, they were composed of a masonry-cistern and of fourteen buildings, detached

squares and oblongs, irregular both in orientation and in size; the largest measuring eighty by fifty mètres, and the smallest five by four. The material was of water-rolled boulders, huge pebbles without mortar or cement. There were no signs of a furnace, nor were the usual fragments of glass and pottery strewed about. To the north and running up the north-north-eastern slope stood a line of wall two mètres broad and three hundred long: it ended at the south-western extremity in five round towers razed to their foundations. It was suggested that this formed part of a street, laid out on the plan of the Jebel el-Safrá, the *hauteville* of Magháir Shu'ayb. On the right bank of the Wady appeared a heap of stones suggesting a *Burj*. Fine, hard, compact, and purple-blue slate was collected in the ruins; and the red conglomerates on either side of the watercourse suggested that *Cascalho* had been worked.

After riding their dromedaries some three hours, halts not included, the travellers were asked why they had not brought their tents. "Because we expect to return to camp this evening!" Then it leaked out that they had not reached half-way to the "closed stone," while the dragon-tablet would take a whole day. Unprepared for a wintry night in the open, some twelve hundred feet above sea-level, they rode back at full speed, greatly to the disgust of the

Arabs, who, at this hungry season, rarely push their lean beasts beyond three and a half to four miles an hour. Lieutenant Amir, who is invaluable in the field, would have pressed forward: not so the European.

I did not see Shaykhs Khizr or 'Brahím for many a day; nor did we attempt any more *reconnaissances* to the north of Magháir Shu'ayb.

Not the least pleasant part of our evening's work was collecting information concerning the origin of the tribes inhabiting modern Midian; and, as on such occasions a mixed multitude was always present, angry passions were often let rise. As my previous volume showed, the tribes in this Egyptian corner of North-Western Arabia number three—the Huwaytát, the Maknáwi, and the Beni 'Ukbah; the two former of late date, and all more or less connected with the Nile Valley. Amongst them I do not include the Hutaym or Hitaym, a tribe of Pariahs who, like the Akhdám ("serviles") of Maskat and Yemen, live scattered amongst, although never intermarrying with, their neighbours. As a rule the numbers of all these tribes are grossly exaggerated, the object being to impose upon the pilgrim-caravans, and to draw black-mail from the Government of Egypt. The Huwaytát, for instance, modestly declare that they can put 5000 matchlocks into the field: I do not believe that they have 500. The

Ma'ázah speak of 2000, which may be reduced in the same proportion; whilst the Baliyy have introduced their 37,000 into European books of geography, when 370 would be nearer the mark. I anticipate no difficulty in persuading these Egypto-Arabs to do a fair day's work for a fair and moderate wage. The Bedawin flocked to the Suez Canal, took an active part in the diggings, and left a good name there. They will be as useful to the mines; and thus shall Midian escape the mortification of the "red-flannel-shirted Jove," while enjoying his golden shower.

I first took the opportunity of rectifying my notes on the origin of the Huwaytát tribe.* According to their own oral genealogists, the first forefather was a lad called 'Alayán, who, travelling in company with certain Shurafá ("descendants of the Apostle"), and *ergò* held by his descendants to have been also a Sherif, fell sick on the way. At El-'Akabah he was taken in charge by 'Atíyyah, Shaykh of the then powerful Ma'ázah tribe, who owned the land upon which the fort stands. A "clerk," able to read and to write, he served his adopted father by superintending the accounts of stores and provisions supplied to the Hajj. The Arabs, who before that time embezzled at discretion, called him El-Huwaytí ("the Man of the Little Wall") because his

* "The Gold-Mines of Midian," Chap. VI.

learning was a fence against their frauds He was sent for by his Egyptian friends; these, however, were satisfied by a false report of his death: he married his benefactor's daughter; he became Shaykh after the demise of his father-in-law; he drove the Ma'ázah from El-'Akabah, and he left four sons, the progenitors and *eponymi* of the Midianite Huwaytát. Their names are 'Alwán, 'Imrán, Suway'id, and Sa'id; and the list of nineteen tribes, which I gave in "The Gold-Mines of Midian," is confined to the descendants of the third brother.

The Huwaytát tribe is not only an intruder, it is also the aggressive element in the Midianite family of Bedawin; and, of late years, it has made great additions to its territory. If it advances at the present rate it will, after a few generations, either "eat up," as Africans say, all the other races or, by a more peaceful process, assimilate them to its own body.

We also consulted Shaykh Hasan and his cousin Ahmed, *alias* Abú Khartúm, concerning the origin of his tribe, the Beni 'Ukbah. According to our friend Furayj, the name means "Sons of the Heel" (*'Akab*) because, in the early wars and conquests of El-Islám, they fought during the day by the Moslems' side; and at night, when going over to the Nazarenes, they lost the "spoor" by wearing their sandals heel foremost, and by shoeing their horses

the wrong way. All this they indignantly deny; and they are borne out by the written genealogies, who derive them from "Ukbah, the son of Maghrabah, son of Heram," of the Kahtániyyah (Joctanite) Arabs, some of the noblest of Bedawi blood. They preserve the memory of their ancestor 'Ukbah, and declare that they come from the south; that is, they are of Hejázi descent, consequently far more ancient than the Huwaytát. At first called "El-Musálimah," they were lords of all the broad lands extending southward between Shámah (Syria) and the Wady Dámah below the port of Zibá; and this fine valley retains, under its Huwayti occupants, the title of 'Ukbíyyah—'Ukbah-land. Thus they still claim as *Milk*, or "unalienable property," the Wadys Gharr, Sharmá, 'Aynúnah, and others; whilst their right to the ground upon which Fort el-Muwaylah is built has never been questioned.

The first notable event in the history of the Beni 'Ukbah was a quarrel that arose between them and their brother-tribe, the Beni 'Amr. The 'Ayn el-Tabbákhah,* the fine water of Wady Madyan, now called Wady Makná, was discovered by a Hutaymi shepherd of the Beni 'Ali clan, while tending his flocks; others say that the lucky man was a hunter following a gazelle. However that may

* In "The Gold-Mines of Midian" (*passim*) this "Spring of the She-Cook" appeared as the "She-Cork!"

be, the find was reported to the Shaykh of the Musálimah (Beni 'Ukbah), who had married 'Ayayfah, the sister of Ali ibn Nejdi, the Beni 'Amr chief, whilst the latter had also taken his brother-in-law's sister to wife. The discoverer was promised a *Jinu* or *Sabátah* ("date-bunch") from each palm-tree; and the rivals waxed hot upon the subject. The Musálimah declared that they would never yield their rights, a certain ancestor, 'Asaylah, having first pitched tent upon the *Rughámat Makná*, or white "horse" of Makná. A furious quarrel ensued, and, as usual in Arabia as in Hibernia, both claimants prepared to fight it out.

To repeat the words of our oral genealogist, Furayj: "Now, when the wife of the Shaykh of the Musálimah had heard and understood what Satan was tempting her husband to do against her tribe, she rose up, and sent a secret message to her brother of the Beni 'Amr, warning him that a certain person (*Fulán*) was about to lay violent hands on the beautiful valley of El-Madyan. Hearing this, the Beni 'Amr mustered their young men, and mounted their horses and dromedaries, and rode forth with jingling arms; and at midnight they found their opponents asleep in El-Khabt,* the beasts being tied up by the side of their lords. So they cut the

* A region to the north-west of 'Aynúnah, afterwards visited by Lieutenant Yusuf. See Chap. IX.

cords of the camels, they gagged the hunter who guided the attack, they threatened him with death if he refused to obey, and they carried him away with them towards Makná.

"When the Musálimah awoke, they discovered the deceit, they secured their beasts, and they hastened after the enemy, following his track like Azrail. Both met at Makná, when a battle took place, and Allah inclined the balance towards the Beni 'Amr. The Musálimah, therefore, became exiles, and took refuge in Egypt. And in the flow of days it so happened that the Shaykh of the Beni 'Amr awoke suddenly at midnight, and heard his wife, as she sat grinding at the quern, sing this quatrain :—

> 'If the handmill (of Fate) grind down our tribe
> We will bear it, O Thou (Allah) that aidest to bear!
> But if the mill grind the foeman tribe,
> We will pound and pound them as thin as flour.'

Whereupon the Shaykh, in his wrath, seized a stone, and cast it at his wife, and knocked out one of her front teeth. She said nothing, but she took the tooth and wrapped it in a rag, and sent it with a message to her brother, the Shaykh of the Musálimah. Now, this chief was unable to revenge his sister single-handed, so he travelled to Syria, and threw himself at the feet of the great Shaykh of the Wuhaydi tribe, who was also a Sherif.

"The Wuhaydi despatched his host together with the warriors of the Musálimah, and both went forth to do battle with the Beni 'Amr. The latter being camped in a valley near 'Aynúnah, tethered their dogs and, some say, left behind their old people,* and lit huge bonfires; whence the name of the place is Wady Umm Nírán ('the Mother of Fires') to this day. Before early dawn they had reached in flight the Wady 'Arawwah of the Jibál el-Tihámah. In the morning the Musálimah and the Wuhaydi, finding that a trick had been practised upon them, followed the foe, and beat him in the Wady 'Arawwah, killing the Shaykh. And the chief of the Musálimah gave his widowed sister as wife to the Wuhaydi, and settled with his people in their old homes. The Beni 'Amr fled to the Hismá, and exiled themselves to Kerak in Syria, where they still dwell, owning the plain called Ganán Shabíb. There is now peace between the Beni 'Ukbah and their kinsmen the Beni 'Amr."

The second event in the history of the tribe, the "Tale of Abú Rísh," † shall also be told in the

* Such an act would disgrace an Arab tribe, and of course it is denied by the Beni 'Ukbah. We visited this valley, which is one of the influents of the Wady 'Aynúnah, during the first Expedition ("The Gold-Mines of Midian," p. 165).

† The modern Beni 'Ukbah ignore the story of Abú Rísh, not wishing to confess their obligations to the Huwaytát.

words of Furayj:—"After the course of time the Beni 'Ukbah, aided by the Ma'ázah, made war against the Shurafá, who were great lords in those days, and plundered them and drove them from their lands. The victors were headed by one Salámah, a Huwayti who dwelt at El-'Akabah, and who had become their guest. In those ages the daughters of the tribe were wont to ride before the host in their *Hawádig* ('camel-litters'), singing the war-song to make the warriors brave. As Salámah was the chief Mubáriz ('champion in single combat'), the girls begged him to wear, when fighting, a white ostrich feather in his chain-helmet, that they might note his deeds and chant in his name. Hence his title, Abú Rísh—the 'Father of a Feather.' The Sherifs, being beaten, made peace, taking the lands between Wady Dámah and El-Hejaz; whilst the Beni 'Ukbah occupied Midian Proper (North Midian), between 'Dámah' and 'Shámah' (Syria).

"Abú Rísh, who was a friend to both victor and vanquished, settled among the Sherifs in the Sirr country south of Wady Dámah. He had received to wife, as a reward for his bravery, the daughter of the Shaykh of the Beni 'Ukbah; and she bare him a son, 'Id, whose tomb is in the Wady Ghál, between Zibá and El-Muwaylah. On the *Yaum el-Subú'h* ('seventh day after birth'), the mother of 'Id followed the custom of the Arabs;

and, after the usual banquet, presented the babe to the guests, including her father, who made over Wady 'Aynúnah in free gift to his grandson. Now, 'Id used to lead caravans to Cairo, for the purpose of buying provisions; and he was often plundered by the Ma'ázah, who had occupied by force the Wadys Sharmá, Tiryam, and Surr of El-Muwaylah.

"This 'Id ibn Salámah left, by a Huwayti woman, a son 'Alayán, surnamed Abú Takíkah ('Father of a Scar') from a sabre-cut in the forehead: he was the founder of the Tugaygát-Huwaytát clan, and his descendants still swear by his name. Once upon a time, when leading his caravan, he reached the Wady 'Afál, and he learned that his enemies, the Ma'ázah, and the black slaves who garrisoned El-Muwaylah, were lurking in the Wady Marayr. So he placed his loads under a strong guard; and he hastened, with his kinsmen of the Huwaytát, to the Hismá, where the Ma'ázah had left their camels undefended: these he drove off, and rejoined his caravan rejoicing. The Ma'ázah, hearing of their disaster, hurried inland to find out the extent of the loss, abandoning the black slaves, who, nevertheless, were still determined to plunder the *Káfilah.* 'Alayán was apprized of their project; and, reaching the Wady Umm Gehaylah, he left his caravan under a guard, and secretly posted fifty matchlock-men in El-Suwayrah, east of the hills

of El-Muwaylah. He then (behold his cunning!) tethered between the two hosts, at a place called Zila'h, east of the tomb of Shaykh Abdullah,* ten camel-colts without their dams. Roused by the bleating, the negro slaves followed the sound and fell into the ambush, and were all slain.

"'Alayán returned to the Sirr country, when his tribe, the Huwaytát, said to him, 'Hayya (up!) to battle with these Ma'ázah and Beni 'Ukbah; either they uproot us or we uproot them!' So he gathered the clan, and marched to a place called El-Bayzá,† where he found the foe in front. On the next day the battle began, and it was fought out from Friday to Friday; a truce was then made, and it was covenanted to last between evening and morning. But at midnight the enemy arose, left his tents pitched, and fled to the Hismá. 'Alayán followed the fugitives, came up with them in the Wady Sadr, and broke them to pieces. Upon this they took refuge in Egypt and Syria.

"After a time the Beni 'Ukbah returned, and obtained pardon from 'Alayán the Huwayti, who imposed upon them six conditions. Firstly, having lost all right to the land, they thus became 'brothers' (*i.e.* serviles). Secondly, they agreed to give up the privilege of escorting the Hajj-caravan. Thirdly,

* The tomb on the hillock north of El-Muwaylah.

† South-east of El-Muwaylah.

if a Huwayti were proved to have plundered a pilgrim, his tribe should make good the loss; but if the thief escaped detection, the Beni 'Ukbah should pay the value of the stolen property in coin or in kind. Fourthly, they were bound not to receive as guests any tribe (enumerating a score or so) at enmity with the Huwaytát. Fifthly, if a Shaykh of Huwaytát fancied a dromedary belonging to one of the Beni 'Ukbah, the latter must sell it under cost price. And, sixthly, the Beni 'Ukbah were not allowed to wear the *'Abá* or Arab cloak." *

The Beni 'Ukbah were again attacked and worsted, in the days of Sultan Selim, by their hereditary foe, the Ma'ázah. They complained at Cairo; and the Mamlúk Beys sent down an army which beat the enemy in the Wady Surr. They had many quarrels with their southern neighbours, the Baliyy: at last peace was made, and the land was divided, the Beni 'Ukbah taking the tract between Wadys Dámah and El-Muzayrib. Since that time the tribe has been much encroached upon by the Huwaytát. It still claims, however, as has been said, all the lands between El-Muwaylah and Makná, where they have settlements, and the Jebel Harb, where they feed their camels. They number some twenty-five

* These hard conditions were actually renewed some twenty-five years ago.

to thirty tents, boasting that they have hundreds; and, as will appear, their Shaykh, Hasan el-'Ukbí, amuses himself by occasionally attacking and plundering the wretched Maknáwis, or people of Makná, a tribe weaker than his own.

CHAPTER VI.

TO MAKNÁ, AND OUR WORK THERE—THE MAGÁNI OR MAKNÁWIS.

AFTER a silly fortnight at old Madiáma, I resolved to march upon its seaport, Makná, the Μάκνα of Ptolemy, which the people call also "Madyan." * We set out at seven a.m. (January 25th); and, after a walk of forty-five minutes, we were shown by Furayj a *Ghadír*, or shallow basin of clay, shining and bald as an old scalp from the chronic sinking of water. In the middle stood two low heaps of fine white cement, mixed with brick and gravel; while to the west we could trace the framework of a mortared *Fiskíyyah* ("cistern"), measuring five mètres each way. The ruin lies a little south of west (241° mag.) from the greater "Shigd;" and it is directly under the catacombed hill which bears the "Praying-place of Jethro." A tank

* For ample notices on this subject, see "The Gold-Mines of Midian," Chap. XII. In p. 337, however, I made the mistake of supposing Makná to be the capital, instead of the port of the capital. The true position is north lat. 28° 24′.

in these regions always presupposes a water-pit, and there are lingering traditions that this is the "Well of Moses," so generally noticed by mediæval Arab geographers. It is the only one in the Wady Makná, not to mention a modern pit about an hour and a half further down the valley, sunk by the Bedawin some twenty feet deep: the walls of the latter are apparently falling in, and it is now bone-dry. But the veritable "Moses' Well" seems to have been upon the coast; and, if such be the case, it is clean forgotten. True, Masá'íd, the mad old Ma'ázi, attempted to trace a well inside our camp by the seashore; but the Beni 'Ukbah, to whom the land belongs, had never heard of it.

After marching about six miles, we entered a gorge called Umm el-Bíbán, "the Mother of Gates," formed by the stony spurs of the Wady bank: the number of birds and trees, especially in the syenitic valleys, showed that water could not be far off. At 10.10 a.m. a halt was called at the half-way place, a bay or hollow in the left cliff, El-Humayrah—"the Little Red"—an overhanging wall of ruddy grit some eighty feet high, with strata varying in depth from a few lines to as many fathoms, all differing in colour, and all honeycombed, fretted, and sculptured by wind and rain. Above the red grit, weathered into a thousand queer shapes, stood strata of chloritic sand, a pale yellow-green, and capping it

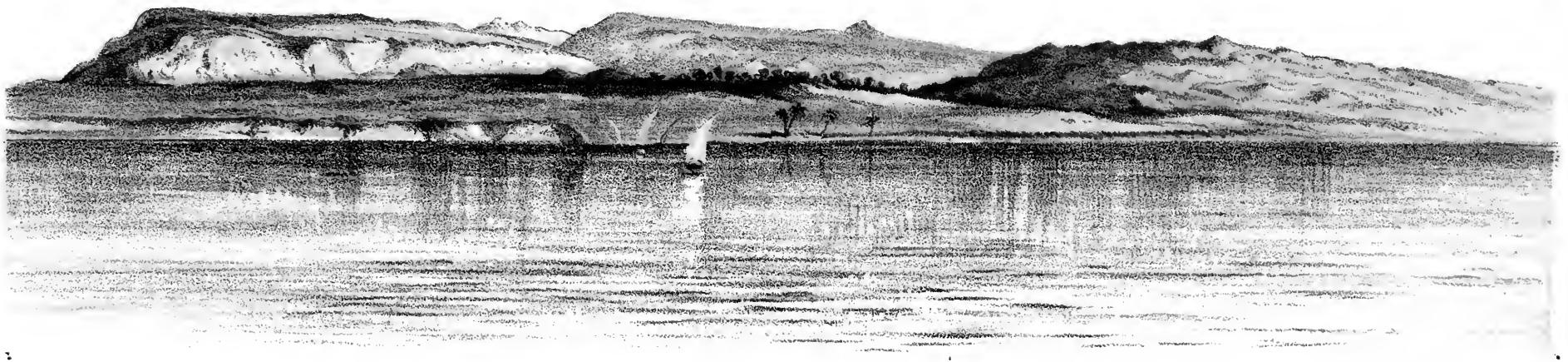
rose the usual dull-brown carbonate of lime. Large fossil oysters lay in numbers about the base, suggesting a prehistoric feast of the Titans. Amongst them is the monstrous *Tridacna* (*gigantea*), which sometimes attains a growth of a yard and a half; one of these is used as a *bénitier* at the church of Saint Sulpice, Paris. Amongst the layers were wavy bands of water-rolled crystals, jaspers, bloodstones, iron-revetted pebbles, and "almonds," which, in the Brazil, accompany and betray the diamond.* We had no time to make a serious search; but, when the metals shall be worked, it will, perhaps, be advisable to import a skilled prospecter from the Brazil or the Cape of Good Hope.

At noon we met the "heaven-sent, life-sustaining sea-breeze;" and now the broad and well-marked Wady Makná, with its rosy-pink sands, narrowed to a gut, flanked and choked on both sides, north and south, by rocks of the strangest tricolour, green-black, yellow-white, and rusty-red. The gloomy peak, which had long appeared capping the heights ahead, proved to be the culmination of a huge upthrust of porphyritic trap. Bottle-green when seen under certain angles, and dull dead sable at others, it was variegated by cliffs and slopes polished like dark mirrors, and by sooty sand-shunts disposed at

* For historical notices of the diamond in North-Western Arabia, see "The Gold-Mines of Midian," p. 168.

the natural slope. Crumbling outside, the lower strata pass from the cellular to the compact, and are often metalliferous when in contact with the quartz: at these *Salbandes* the richest mineral deposits are always found. Set in and on the black flanks, and looking from afar like the gouts of a bloodstone, are horizontal beds, perpendicular spines, and detached blocks of felsitic porphyry and of rusty-red syenite, altered, broken, and burnt by plutonic heat. In places, where the trap has cut through the more modern formations, it has been degraded by time from a dyke to a ditch, the latter walled by the ruddy rocks, and sharply cut as a castle-moat. And already we could see, on the right of the Wady, those cones and crests of ghastly, glaring-white gypsum, which we had called "the Hats."

These gloomy cliffs, approaching the maritime plain, sweep away to the south, and melt into the "Red Hills" visited on our first excursion. They are known as the Jebel el-*'Abdayn*—"of the Two Slaves:" this, perhaps, is the Doric pronunciation of the Bedawin for *Abdín*—"slaves." Presently we sighted the familiar features of the seaboard, described in my first volume, especially the Rughámat el-Margas to the north; and westward the Gulf of 'Akabah, looking cool and blue in the Arabian glare. After five hours and thirty minutes (= seventeen miles and a half) in the saddle we reached Makná.



THOS. ASHE LITH. 66 KING ST. COVENT GARDEN

MAKNA' ROADS.

I had thought of encamping near the "Praying-place of Moses," a fine breezy site which storms would have made untenable. As at Sharmá, camels must turn off to the right over the banks when approaching the mouth of the Wady Madyan, whose bed is made impassable by rocks and palm-thicket. We then proposed to pitch the tents upon the valley sands within the "Gate," but this was overruled by the Sayyid, who told grisly tales of fever and ague. Finally, we returned to our former ground, near the old conglomerates and the mass of new shells, which ledge the shore of the little harbour. Approaching it, we were delighted to see the gunboat *Mukhbir* steaming up, despite the contrary wind, from Sharm Yáhárr; she was towing the Sambúk, which brought from 'Aynúnah Bay our heavy gear, rations, and tools. This was a stroke of good luck: already we were on half rations, and provant for men and mules threatened to run short.

Our week at Makná (January 25—February 2) justified the pleasant impression left by the first visit, and enabled us to correct the inaccuracies of a flying survey. This "Valley of Waters," with its pink and yellow (chloritic) sands, is bounded on the right near the sea by a sandbank about one hundred feet high, a loose sheet thinly covering the dykes of syenite and the porphyritic trap which in places peep out. Possibly it contains, like the left

flank, veins of quartz, lowered by corrosion, and concealed by the sand-drift spread by the prevalent western winds. The high-level abounds in detached springs, probably the drainage of the *Rughámat Makná*, the huge "horse" or buttress of gypsum bearing north-east from the harbour. The principal veins number three. The uppermost and sweetest is the Ayn el-Tabbákhah; in the middle height is El-Tuyúri (Umm el-Tuyúr), with the dwarf cataract and its tinkling song; whilst the brackish 'Ayn el-Fara'í occupies the valley sole. Besides these a streak of palms, perpendicular to the run of the Wady, shows a rain-basin, dry during the droughts; and, higher up, the outlying dates springing from the arid sands, are fed by thin veins which damp the rocky base. Hence, probably, Dr. Beke identified the place with the "Elim" of the Exodus: his artist's sketch from the sea (p. 340) is, however, absolutely unrecognizable.

The high-level spring and the middle water rise in sandy basins; course down deeply furrowed beds of grit; and, after passing through a tangle of vegetation, a dense forest of palms, alive and dead, and open patches sown with grain, wilfully waste their treasures in the upper slope of the right bank. This abundance of water has developed a certain amount of industry; although the Bedawin tear to pieces the young male-dates, whose tender green

growth, at the base of the fronds, supplies them with a "chaw." A number of artificial runnels has been trained to water dwarf barley-plots, whose fences of date-fronds defend them from sheep and goats; and further down the bank are the fruit-trees which first attracted our attention.

The low-level water consists of two springs. The upper is the 'Ayn el-'Aryánah, springing from the sands under the date-trees which line the right and left sides: apparently it is the drainage of a gypsum "hat," called El-Kulayb, "the Little Dog"—in their Doric the Bedawin pronounce the word *Galáib*. Further down the bed, and divided by a tract of dry sand, is the 'Ayn el-Fara'í, which also rises from both banks, forms a single stream, sleeps in deep pellucid pools like fairy baths among the huge boulders of grey granite, and finally sinks before reaching the shore. When these waters shall again be regulated, as of old, they will prove amply sufficient for the vegetable and the mineral. Anton, the Greek, who everywhere saw the shop, was so charmed with the spot, that he at once laid out his establishment: here shall be the hotel; there the billiard and gambling room, and there the garden, the kiosk, the *buvette*—in fact, he projected a miner's paradise.

On the crest of this right bank, above the vegetation, lies the traditional *Musallat Musá* ("Moses'

Oratory"), of which the foundations, or rather the base-stones, are *in situ.* The larger enceinte measures, without including two walls projecting from the north-east and north-west angles, an oblong of thirty-seven by twenty-five feet; and, as usual with Midianite ruins, it has been built of all manner of material. The inner sanctum opens to the west, the northern and southern basement-lines only remaining: the former is composed of eight blocks of gypsum resembling alabaster, five being larger than the others; and the southern of three. Upon these the Bedawin still deposit their simple *ex-votos,* oyster and other shells, potsherds, and coloured pebbles.*

The left or opposite bank, which wants water, is formed by the tall conglomerate-capped cliffs, which support the "Muttali'" or *hauteville,* and by the warty block called Jebel el-Fahísát. In "The Gold-Mines of Midian" (Chap. XII.) it is called El-Muzayndi, an error of my informants for El-Muzeúdi: the latter is the name of the small red hill north of our camp. I again visited the high town, which is about a hundred feet above the valley: presently it will disappear bodily, as its base is being corroded, like the Jebel el-Safrá of Magháir Shu'ayb. The walls still standing form a long room

* Dr. Beke's artist made a plan of this rude affair (p. 349), and nothing can be worse. The Egyptian Staff-officers drew the ruin correctly; but the poor remains by no means deserve the honour of a wood-cut.

running north-south; and the two adjoining closets set off to the north-east and south-east. This sadly shrunken upper settlement covers the remnant of the rocky plateau to the east: there are also traces of building on the southern slopes. Ruined heaps of the usual material, gypsum, dot and line the short broad valley to the north, which rejoices in the neat and handy name, *Wady Majrá Sayl Jebel el-Marú.* Here, however, they are hardly to be distinguished from the chloritic spines and natural sandbanks that stud the bed. The only antiquities found in the "Muttali'" were a stone cut into parallel bands, and the fragment of a basalt door with its pivot acting as hinge in the upper part: it reminded me of the Græco-Roman townlets in the Haurán, where the credulous discovered "giant Cities" and similar ineptitudes. Our search for Midianite money was in vain; Mr. Clarke, however, picked up, near the sea, a silver "Taymúr," the Moghal, with a curiously twisted Kufic inscription. (A.H. 734).

The *'Ushash* or frond-huts of the Maknáwi and the Beni 'Ukbah were still mostly empty. At this season, all along the seaboard of North-Western Arabia, the Bedawin are grazing their animals in the uplands, and they will not return coastwards till July and August supply the date-harvest. The village shows the *inconséquence* of doors and wooden

keys to defend an interior made of *Cadjan*, or "dry date-fronds," which, bound in bundles, make a good hedge, but at all times a bad wall. One of its peculiar features is what looks like a truncated and roofless oven; in this swish cylinder they pound without soaking the date-kernels that feed their camels, sheep, and goats. A few youths, however, who remained in this apology for a "deserted village," assisted us in night-fishing with the lantern; and they brought from the adjoining reefs the most delicate of shell and scale fish. The best were the *langoustes* (*Palinurus vulgaris*), the clawless lobsters called crawfish (crayfish) in the United States, and the *agosta* or *aragosta* of the Adriatic: it was confounded by the Egyptian officers with "Abú Galambo,"* the crab (*Cancer pelagicus*). The echinidæ of various species, large-spined and small-spined, the latter white as well as dull-red, were preserved in spirits.† Amongst the excellent fish, the Marján (a *Sciæna*) the Sultan el-Bahr, the Palamita (*Scomber*), the Makli (red mullets, *Mugil cephalus*), and the Búri, were monstrous animals, with big eyes and long

* The word is corrupted from *Jamb*, "the side," alluding to the animal's gait; we did not find the true lobster (*Homarus vulgaris*), the *astica* of the Adriatic, whose northern waters produce such noble specimens.

† The spirit-tins, prepared for me at Trieste, were as most things there are, very dear and very bad; after a short use they became full of holes. So the bowie-knives, expressly made to order at old Tergeste, proved to be of iron not of steel.

beaks like woodcocks; some of these were garnished with rows of ridiculously big teeth. I failed to procure live specimens of small turtle, and yet the huts were full of carapaces, all broken and eight-ribbed. One species, the Sakar, supplies tortoise-shell sold at Suez for 150 piastres per Ratl or pound; the Bísáh, another large kind without carapace, is used only for eating: both are caught off the reefs and islets. An eel-like water-snake (Marrína = *Muræna Ophis*) showed fight when attacked. The Arabs do not eat it, yet they will not refuse the *Shaggah*, or large black land-snake.

The enforced delay at Makná gave us the opportunity of making careful *reconnaissances* in its neighbourhood. During the last spring I had heard of a Jebel el-Kibrít ("sulphur-hill") on the road to 'Aynúnah, but no guide was then procurable. Shortly after our return, a Bedawi named Jázi brought in fine specimens of brimstone, pure crystals adhering to the Secondary calcaire, and possibly formed by decomposition of the sulphate of lime. If this be the case we may hope to find the mineral generally diffused throughout these immense formations; of course, in some places the yield will be richer and in others poorer. Further investigation introduced us, as will be seen, to two southern deposits, without including one heard of in Northern Sinai. All lie within a short distance of the sea,

and all are virgin: the Bedawin import their sulphur from the "Barr el-'Ajam," the popular name for Egypt, properly meaning Persia or any non-Arab land. Thus, in one important article Midian rivals, if not excels, the riches of the opposite African shore, where for a single mine thirty millions of francs have been demanded by way of indemnity.

Betimes on January 26th, a caravan of four camels, for the two quarrymen and the guide, set off southwards, carrying sacks, tools, and other necessaries. They did not return till the morning of the third day; Jázi had lost the road, and the Bedawin rather repented of having been so ready to disclose their treasures. Of course, our men could not ascertain the extent of the deposits; but they brought back rich specimens which determined me to have the place surveyed. Unfortunately I had forgotten a sulphur-still; and the engineer vainly attempted to extract the ore by luting together two iron mortars, and by heating them to a red heat. The only result was the diffusion of the sulphur-crystals in the surrounding gypsum. This discovery gave me abundant trouble; the second search-party was a failure; and it was not till February 18th that I could obtain a satisfactory plan of the northern Jebel el-Kibrít.

At Makná I was much puzzled by the presence of the porous basalt, which had yielded to the first

Expedition a veinlet of "electron"—gold and silver mixed by the hand of Nature. The plutonic rock, absent from the Wady Makná, appears in scatters along the shore to the north. Our friend Furayj knew nothing nearer than El-Harrah, the volcanic tract bounding the Hismá on the east, and distant some five days' march. This was going too far; querns of the same material, found in all the ruins, suggested a neighbouring outcrop. Moreover, during the last spring, I had heard of a mining site called *Nakhil Tayyib Ism*, the "Palm-orchard (of the Mountain) of the Good Name," in the so-called range to the north of Makná.

Lieutenant Amir was despatched (January 27th) to seek for basalt, with a small dromedary-caravan, under the lead of Shaykh Furayj. After winding for about two hours along the shore, which is cut by the broad mouths of many a Wady; and whose corallines, grits, and limestones are weathered into the strangest shapes; he left to the right (east) the light-coloured Jebel Sukk. On the southern side of the Wady (Sukk) which drains it to the sea, a hill of the porous stone which the Arabs call "Hajar el-Harrah" appeared. The specimens brought home, *si vera sunt exposita*, if they be really taken from an outcrop, prove that volcanic centres, detached, sporadic, and unexpected, like those found further north, occur even along the shore. As will after-

wards appear, another little "Harrah" was remarked by Burckhardt ("Syria," p. 522), about one hour and a quarter north of Sinaitic Sherm. He says, "Here, for the first and only time, I saw volcanic rocks;" and he considers that their extension towards Ras Abú (?) Mohammed may have given rise to the name Μέλανα ὄρη. Wellsted,* who apparently had not read Burckhardt, makes the same remark. The many eruptive centres in the limestones of Syria and Palestine were discovered chiefly by my late friend, the loved and lamented Charles F. Tyrwhitt-Drake. It would be interesting to ascertain the relation which they bear to the great lines of vulcanism in the far interior, the Haurán and the Harrah, subtending the coast mountains. And Dr. Beke, another friend now no more, would have been delighted to know that his "True Mount Sinai" was not unconnected with a volcanic outbreak.

Beyond the Wady Sukk, a bad rough path leads along the base of the Tayyib Ism Mountain; then the cliffs fall sheer into the sea, explaining why caravans never travel that way. Yet there was a maritime road, for we know that Abú Sufyán, on his way from Syria to fight the battle of "Bedr" (A.H. 2), passed by a roundabout path for safety, along the shore of Midian. Thus compelled, the track bends inland, and enters a *'Nakb*, a gash conspicuous

* "Travels," Vol. II. Chap. IV.

from the Gulf, an immense cañon or *couloir* that looks as if ready to receive a dyke or vein. Curious to say, a precisely similar formation, prolonged to the south-west, cuts the cliffs south of Marsá Dahab in the Sinaitic Peninsula. The southern entrance to the gorge bears signs of human habitation: a parallelogram of stones, 120 paces by 91, has been partially buried by a land-slip (?); and there are remnants of a dam measuring about a hundred metres in length (?). About three hundred yards higher up, water appears in abundance, and palm-clumps grow on both sides of it. Here, however, all trace of man is wanting; the winter torrents must be dangerous; and there is no grass for sheep. The crevasse now becomes very wild; the Pass narrows from fifty to ten paces, and, in one section, a loaded camel can hardly squeeze through; whilst the cliff-walls of red and grey granite (?) tower some two thousand feet above the thread of path.* Water which, as usual, sinks in the sand, is abundant enough in three other places to supply a large caravan; and two date-clumps were passed. Hence, if all here told be true, the "Nakhil (palm-plantation) Tayyib Ism" reported to the first Expedition.

After covering sixteen miles in five hours, the caravan had not made more than half the distance to the Bir el-Máshi, where a small Marsá, or anchor-

* Confirmed by Dr. Beke, p. 533.

age-ground, called *El-Suwayhil* ("the Little Shore"), nestles in the long sand-slope between the mountain Tayyib Ism and its huge northern neighbour, the Mazhafah block. From this "Well of the Walker," a pass leads to the Wady Marshá, where, according to certain Bedawin, are found extensive ruins and *Bíbán* ("doors"), or catacombs. The whole is, however, an invention; our Sayyid had ridden down the valley during his journey to El-Hakl.

On the next day another *reconnaissance* was made. I had been shown fine specimens of quartz from the Eastern highlands; moreover, a bottle of "bitter" or sulphur-water from the Wady Mab'úg, the "oblique" or "crooked" valley, mentioned in "The Gold-Mines of Midian,"* had been brought to us with much ceremony. Those who tasted it, indeed, were divided as to whether it smacked more of brimstone or of ammonia. Accordingly, Mr. Clarke and Lieutenant Yusuf walked up the Wady Makná, and ascended the Mab'úg, where the mineral spring proved to be a shallow pool of rain-water, much frequented by animals, camels included. Search for the "Marú" was more successful: they found a network of veins in the sandstone grits (?) of the Jebel Umm Lasaf; and they thus established the fact that the "white stone" abounds to the east as well as to the south of Makná.

* P. 351.

Meanwhile we were working hard at the Jebel el-Fahísát, the great discovery of the northern journey. I had been struck by the name of the watercourse to the north of the *hauteville*, Wady Majrá Sayl Jebel el-Marú—"the Nullah of the Divide of the Torrent (that pours) from the Mountain of Quartz." Moreover, a Maknáwi lad, 'Id bin Mohsin, had brought in fine specimens of the *Negro* or iridescent variety, offering to show the place. Lastly, other Bedawi had contributed fine specimens of Marú, with the grey copper standing out of it in veins. On the evening of January 27th we walked up the picturesque mouth of the Makná valley. After passing the conglomerate "Gate," and the dwarf plantations on both sides above it, we reached in forty-five minutes the spot where the lower water, 'Ayn el-Fara'í, tumbles over rocks of grit and granite. On the left bank, denoted by a luxuriant growth of rushes, is an influent called Sha'b el-Kázi, or "the Judge's Pass." * Ascending it for a few paces, we struck up the broad and open Fiumara, which I shall call for shortness "Wady Majrá." The main trunk of many branches, it is a smooth incline, perfectly practicable to camels; with banks and buttresses of green-yellow chloritic sands, and longitudinal spines outcropping from the

* I am doubtful about this name, which the Bedawi apply to more than one place.

under surface. It carries off the surplus water from the north-western slopes of that strange wavelike formation, the Jebel el-Fahísát, which bounds the right (southern) bank of the Wady Makná. Presently we sighted the Jebel el-Marú, the strangest spectacle. The apex of the gloomy porphyritic trap is a long spine of the tenderest azure-white, filmy as the finials of Milan Cathedral, and apparently melting into thin air. Its crest seems abnormally tall and distant; and below it a huge grey vein, horizontal and wavy, cuts and pierces the peaklet of red rock; and is cut and pierced, in its turn, by two perpendicular dykes of porphyritic trap, one flanking the right and the left shoulders of the low cone. When standing upon the *hauteville* during my first visit, I had remarked this "white Lady" of a vein, without, however, attaching to it any importance.

After a quarter of an hour's walk up the Wady Majrá, we came to the sandy base of the rocky Fahísát; and climbed up a torrent-ladder with drops and stiff gradients, which were presently levelled for the convenience of our quarrymen. A few minutes' "swarming" placed us upon the narrow knife-like ridge of snowy quartz, so weathered that it breaks under the hand: this is the aerial head which from below appears so far. The summit, distant from our camp about one direct mile and a quarter, gives

355° to the Gypsum-hill, Ras el-Tárah, on the shore; 358° to the palm-clump nearest the sea, and due north (360°, all magnetic) to the tents, which are well in sight. The altitude is about six hundred feet (aner. 29·40).

The view from this summit of the Fahísát is charming as it is extensive. Westward and broad-stretching to the north-west lies the fair blue gulf that shows, on its far side, the broken mountains of the Sinaitic Peninsula. Northwards, at our feet, stretch the palm-groves of Makná, a torrent of verdure pouring towards the shore. A little to the left, sheltered from the boreal wind by the white gypseous ridge, *Ras el-Tárah* ("the Head that surrounds"), and flanked at both ends by its triangular reefs, the Sharm Makná, the past and future port of the mines, supports the miniature gunboat, no larger than a "cock," and the Sambúk dwarfed to a buoy. Beyond the purpling harbour, along the glaring yellow shore, cut by broad Wady-mouths and dotted here and there with a date-clump, the coral-lines, grits, and sandstones are weathered to the quaintest forms, giant pins and mushrooms, columns and ruined castles. These maritime lowlands are bounded on the north by heights in three distinct planes: the nearest is the Jebel Sukk, low and white; farther rises Tayyib Ism, a chocolate-coloured mass studded with small peaks; while the horizon is

closed by the grand blue wall, the Jebel el-Mazhafah. In places their precipices drop bluff to the sea; but the huge valley-mouths separating the two greater ridges, have vomited a quantity of sand, forming the tapering tongue and tip known as the "Little Shore." Turning to the east and the south-east we have for horizon the Wady el-Kharaj (El-Akhraj ?), backed by its immense right bank of yellow gypsum, which dwarfs even the *Rughámat Makná;* and over it we catch sight of the dark and gloomy Kalb el-Nakhlah, a ridge which, running parallel with and inland of the Fahísát, will be worked when the latter is exhausted.

We at once recognized the value of this discovery when, reaching the tents, we examined the quartz, and found it seamed and pitted with veins and geodes containing *Colorado*, earthy and crumbling metallic dust, chlorure, iodure, and bromure of silver, with various colours, red, ochre-yellow, and dark chocolate-brown. It stained the fingers, and was suspiciously light—*n'importe.* I must regret that here, as indeed throughout the exploration, all our specimens were taken from the surface: we had not time to dig even a couple of feet deep. The lad 'Id almost fainted with joy and surprise when the silver dollars were dropped into his hand, one by one, with the reiteration of "Here's another for you! and here's another!" This lavishness

served to stimulate cupidity, and every day the Bedawin brought in specimens from half a dozen different places. But the satisfaction was at its height when the crucible produced, after cupellation, a button of "silver" weighing some twenty grammes from the hundred grammes of what the grumbling Californian miners had called, in their wrath, "dashed black dust;" * and when a second experiment yielded twenty-eight grammes (each fifteen grains and a half) and ten centigrammes from 111 grammes, or about a quarter of a pound avoirdupois. In the latter experiment also, the *culot* came away without the litharge, which almost always contains traces of silver and antimony. Hence we concluded that the proportions were 30 : 110—a magnificent result, considering that 12½ : 100 is held to be rich ore in the silver mines of the Pacific States.† The engineer was *radieux* with

* Strictly speaking, the dust of the Nevada country was oxide of silver.

† M. Burat ("Géologie Appliqée," i. 8) gives the following minima proportions in which metal may be worked on a grand scale, of course under the most favourable circumstances. The extremes are 0·25 (iron), and 0·00001 (gold); and antimony, bismuth, cobalt, and nickel are neglected, because the proportions vary so much.

Iron, 0·25	Tin, 0·005 (½ per cent.)
Zinc, 0·20	Silver, 0·0005 (½ per 1000)
Lead, 0·02 (two per cent.)	Gold, 0·00001 ($\frac{1}{100,000}$)
Copper and mercury, 0·01	

This table is recommended to the many "profane" who do not believe a rock to be auriferous or argentiferous, unless they can see the gold and silver with the naked eye.

pride and joy. The yellow tint of the "buttons" promised gold—two per cent.? Three per cent.? Immense wealth lay before us: a ton of silver is worth 250,000 francs. Meanwhile—and now I take blame to myself—no one thought of testing the find, even by a blow with the hammer.

Alas! THE "SPLENDID BUTTONS" PROVED TO BE IRON, CONTAINING ONLY TWO AND A HALF GRAMMES OF SILVER TO ONE HUNDRED KILOGRAMMES.*

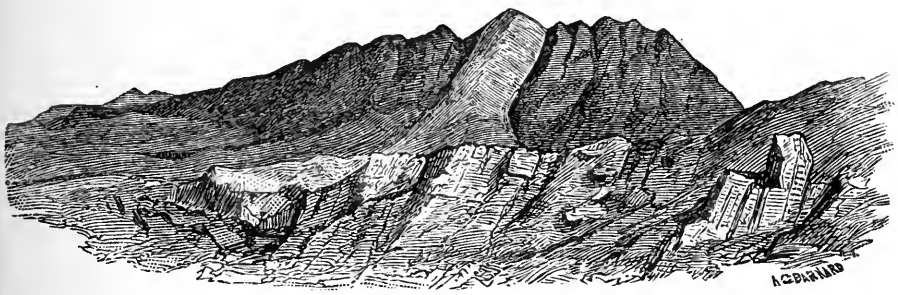
I can afford to make merry on the absurd mistake, which at the time filled the camp with happiness. The Jebel el-Fahísát played us an ugly trick; yet it is, not the less, a glorious metalliferous block, and I am sure of its future.

The rest of our time at Makná was given to the study of this discovery. The great quartz-wall or vein runs nearly due north and south, with a dip of 5° west; it has pierced the syenite, forming a sheet down one peak, spanning a second, and finally appearing in an apparently isolated knob, that bore from the apex 215° (mag.) The upper part, like that of the Jebel el-Abyaz, is apparently sterile:

* The button, when assayed by the official mining office at Trieste, was pronounced to be *antimony!* It was extracted from ruddle (red ochre) and limonite (brown ochre or hydrous oxide of iron): both are sesquioxides (Fe_2O_3) which become dark when heated and change to magnetic oxide (Fe_3O_4). M. Marie is probably the first who ever "ran down" iron oxide with lead. No wonder that Colonel Ross pronounced his *culot* a marvellous alloy.

at a lower horizon it becomes *panaché;* and at last almost all is iridescent—in fact, it is the Filon Husayn, still richer in veins and geodes. The *filets* and fibrils of dust are exposed to sight in the flanks, and near the base of the great quartz-vein: we should never have been able to remove the barren upper capping.

QUARTZ-CONE IN THE FAHÍSÁT.



Every day's work brought with it some novelty. The Jebel el-Marú, the centre or focus of the formation, was found to push out veins to the north, extending within a few yards of the Wady Makná's mouth. Here, however, the quartz imbedded in grey granite appears cupriferous, producing fine grey copper (?); and the same is the case to the east of the Fahísát block. Other green-tinged veins were found bearing 205° (mag.) from our camp. There is also a quartz-hill whose valley-drain, about a mile and a third long, leads down to the sea, about two minutes' walk south of the southern clump of "tabernacles" occupied by

the Maknáwis. The dust is richest, as usual, at the walls where the vein is in immediate contact with the heat-altered granites, whose red variety, containing very little mica, becomes quasi-syenitic. Certain of the Expedition thought that the Fahísát showed signs of having been worked by the ancients: my eyes could see nothing of the kind. And here, as in other parts of our strange country, there is a medley, a confusion of different formations.

On February 2nd, the day before we left Makná, the Arabs brought in heavy masses of purple-black, metalliferous rock, scattered over the gorges and valleys south of the Jebel el-Fahísát; while others declared that they could point out a vein *in situ*. Our engineer declared it to be argentiferous galena, but it proved to be magnetic iron. His assays were of the rudest: he broke at least one crucible per day, lamenting the while that he had been supplied with English articles, instead of *creusets de Bourgogne*. And no wonder! He treated them by a strong blast in a furious coal-fire without previous warming. His muffle was a wreck, and such by degrees became the condition of all his apparatus. However, as we sought, so we found: hardly a Bedawi lad in camp but unpouched some form of metallic specimens. The Shaykhs declared that the wealth of "Kárún" must have been dug here; and I vainly told them that the place of punishment of Korah,

Dathan, and Abiram is still shown by Christians in the Convent of Mount Sinai.*

On January 28th, after a ruddy and cloudy sunset, El-Aylí, the 'Akabah wind, beginning at eleven p.m., gave us a taste of his quality. These northers are the Tyrants of the Gulf; which, comparatively unbroken by capes and headlands, allows them all their own way, carrying a strong swell, and at times huge waves, to meet the tide inflowing from the Red Sea. The storm began with a rush and a roar, as if it came from above. The gravel, striking the canvas, sounded like hail or heavy rain-drops; it then kicked down at one blow the two large tents: they had been carefully pitched above the reach of water, when wind only was to be guarded against. Fortunately most of our goods were packed, in expectation of embarking on the morrow; but the fall broke all the breakables that were not under cover, and carried newspapers and pamphlets, including—again, alas!—the *Réseau Pentagonal* of Elie de Beaumont, over the plain southwards till arrested by the heights of Jebel el-Fahísát. This *Bora*, as it would be called on the Adriatic, makes the air exceptionally cold

* Kárún was a pauper cousin of Musá, who had learned alchemy from Kulsum, the Lawgiver's sister. The keys of his treasure loaded forty mules; and his palace had doors and roof of fine gold. As he waxed fat he kicked against his chief, who as usual became exceeding wroth, and prayed that the earth might swallow him.

and raw before dawn: it appears to abate between noon and sunset, and it is most violent at night: it either sensibly increases or lessens in turbulence with moonrise; and it usually lasts from three to seven days. We rigged up one of the native huts with the awning of a tent, till it looked very like a Gypsy dwelling, and in patience we possessed our souls, grumbling horridly like Britons.

Poor Captain Mohammed of the *Mukhbir*, who had already escaped one shipwreck, was in mortal terror: he at once got up steam, and kept his weary vigil all night. He was perfectly safe, as the northern reef, under which the Sambúk *Musahhil* rode easily as if in smooth water, and the headland, Ras el-Tárah, formed a complete defence against the Aylí, while the natural pier to the south would have protected him from its complement, the Azyab or "south-easter." But it would have been very different had the storm veered to the west, and the terrible Gharbi set in. The port of Makná, which has been described in "The Gold-Mines of Midian,"* can hardly be called safe; on the other hand, its floor has not been surveyed, and a single *brise-lame* seawards would convert it into a dock. I should propose a *gallegiante*, a floating breakwater, tree-trunks in bundles strongly bound together with iron cramps and bands, connected by stout rings and

* Pp. 337—339.

staples and made fast by anchors to the bottom. And, at any rate, on the Sinaitic shore opposite, at the distance of thirteen knots, there is, as will appear, an admirable harbour of refuge.

Next day the cloud-veil lifted; and the mountains of Sinai and Midian, which before had been hidden as if by a November fog in London, again stood out in sharp and steely blue. I proposed to board the gunboat. Afloat we should have been much more comfortable than ashore in the raw, high, and dusty-laden wind. The Egyptian officers, however, quoted the unnautical Fellah's favourite saws, *El-barro birr li-Ahlihi*—"Earth is a blessing to those upon her"—*Zirtat el-Jimál, wa lá tasbíh el-Samak*—"The *roar* of the camels and not the prayer * of the fish;" and the sailors' saying, *Kalb el-Barr, wa lá Saba' el-Bahr*—"Better be a dog ashore than a lion afloat." The public voice was decidedly against embarking; so two more days of gale were spent in adding to our collection of mineralogy. On the other hand, the Sayyid and the three Shaykhs were anxious for a speedy return to El-Muwaylah, where the Hajj-caravan was expected on Safar 10 (= February 11th), and where their presence would be officially required.

On the last day of January I boated off to the

* "Tasbíh" literally means uttering *Subhán Allah!*—"Praise be to Allah!"

Mukhbir several tons of the specimens collected during the northern march; including the iron, the sulphur, and the fine white gypsum, crystalline and amorphous, which forms the *Rughámat Makná.* Lieutenant Yusuf and M. Philipin were directed to remain in camp until they should have collected and placed upon the seashore, ready for embarkation on our return, one ton of white quartz, three tons (= one cubic metre) of the iridescent variety, and four boxes half full of the "silver" (iron) dust whose veins and pockets seam the *Negro.* They were also to wash in the cradle two tons of the pounded *Cascalho* (conglomerate gravel); one ton of the green-yellow chloritic or serpentine sand forming the under surface of the Wady Makná, reduced to four *Girbahs* or "water-sacks;" and five tons of the dark metal (*not* argentiferous galena). After that they were to visit the northern Sulphur-hill; estimate its contents; trace, if possible, its connection with adjoining formations; map the country and prospect for wood, water, and harbour. Lastly, they were ordered to march with the whole camp, including our mules, upon El-Muwaylah, and there to await my return.

The three normal days of El-Aylí had come and gone; still the *Fortuna* * did not fall. The water,

* It is curious how this goddess has extended, through the Dalmatian "Fortunale" and the Slav "Fortunja" of the Bosnian

paved with dark slate, and domed with an awning of milky-white clouds, patched here and there with rags and shreds of black wintry mist that poured westward from the Suez Gulf, showed us how ugly the Birkat 'Akabah can look. As in Iceland also, the higher rose the barometer, the higher rose the norther; the latter being a cold dry wind is, consequently, a heavy wind. And when the sky was comparatively clear and blue, the display of cirri was noticeable. In some places they formed filmy crosses and thready lozenges; in others the wrack fell into the shape of the letter Z; and from the western horizon the curl-clouds shot up thin rays, with a common centre hid behind the mountains of Sinai, affecting all the airs of the sun.

Before leaving Makná I must give an account of its peculiar tribe, concerning which "The Gold-Mines of Midian"* contained sundry inaccuracies. These men are not the "pauper descendants of the wealthy Midianites;" they cannot boast of ancient race or of noble blood; and their speech differs in nothing from that of the Arabs around them. There can be no greater mistake than to suppose that they

peasants, to Turkey, Egypt, and even Arabia. Applied to a violent storm, perhaps it is a euphuism for the Latin word in the sense of good sign or omen; so in Propertius—

"Nulla ne placatæ veniet fortuna procellæ."

* P. 341.

represent in any way the ancient Nabathæans. In features, complexion, and dress they resemble the half-settled Bedawin around them; and, like these, they show a kind of connection with the Sinaitic tribes. The Magáni,* to whom only the southern clump of huts at Makná belongs, call themselves Fawá'idah, Zubáidah, and Ramázání, after families of the Juhayni stock; and the Fawá'idah have, by descent, some title to the name. They are, however, considered to be *Khaddamín* ("serviles"), like the Hutaym race, by their neighbours, who give the following account of their origin.

An Egyptian silk-seller, who accompanied the Ḥajj-caravan, happened to fall asleep at Kubázah, between the stations of 'Aynúnah and Magháir Shu'ayb. His companions went their ways, and he, like a "bean-eater" as he was, fearing to follow them alone, made for Makná. Having married and settled there, and seeing in the fertility of the soil a prospective spec., he sent to his native country for Fellahín—*cultivateurs* and peasants—who were collected from every part of Pharoah-land and its neighbourhood. The new-comers were compelled to pay one-half of their harvest, by way of *El-Akháwah* ("the brother-tax"), in token of subjugation, to the Beni 'Ukbah, the owners of the soil. They have gradually acquired *Milk* ("legal title") to

* The singular is Maknáwi, pronounced Magnáwi.

the ground. According to some, they first settled at Makná in the days of the Beni 'Amr, whom they subsequently accompanied to the Hismá, when flying from the victorious Musálimah. After peace was patched up, they were compelled to make over one-fourth of the date-harvest as *El-Akháwah* to the 'Imrán-Huwaytát and to the Ma'ázah; whilst the Tagaygát-Huwaytát claimed a *Bursh*, or "mat of fine reeds," as a poll-tax from every head of man. Under these hard conditions they are left unmolested; and everything taken from them is restored by the Shaykhs who receive tribute. They have no chief, although one Sálim ibn Juwayfíli claims the title.

Before 1866 the Magáni numbered about a hundred tents: the Wady Makná was then, they say, a garden; and its cultivators were remarkable for their goodness and hospitality to strangers. But in that year a feud with the Beni 'Ukbah was excited, as often happens, by the *belli teterrima causa;* the women quarrelled with one another, saying, "Thy husband is a slave to my husband," and so forth. The little tribe, hoisting two flags of red and white calico with green palm-fronds for staves, dared the foe to attack it; after a loss of four killed and sundry wounded, all ran away manfully, leaving their goods at the mercy of the conqueror. Shaykh Hasan el-'Ukbí was assisted by the Ma'ázah in

looting the Magáni huts, and in carrying off their camels, while Shaykh Furayj vainly attempted conciliation. Shortly afterwards the Maknáwis went in a body to beg aid from Hammád el-Sofi, Shaykh of the Turábín tribe, which extends from Ghazzah (Gaza) westwards to Egypt. Marching with a host of armed followers, he took possession of the palm-huts belonging to the Beni 'Ukbah, when the owners fled in turn, leaving behind their women and children. Furayj hastened from 'Aynúnah to settle the quarrel; and at last the Sofi said to him, "Whilst I protect the Magáni, do thou protect the Beni 'Ukbah." Whereupon the latter returned from their mountain-refuge to El-Muwaylah. The Magáni at the present time are mostly camped about 'Aynúnah; and only some fifteen head, old men, women, and boys, who did not take part in the fight, and who live by fishing, remain at Makná under the protection of the Beni 'Ukbah. Hence the waters are waste and the fields are mostly unhoed.

Such is the normal condition of Arabia and the Arabs. What one does the other undoes; what this creates, that destroys. Professor Palmer tells us, "Another misconception is that all Arabs are habitual thieves and murderers."* Fear of the terrible vendetta, the blood feud and the *blut-geld*, amounting to about eight hundred dollars, prevents

* Loc. cit. p. 79.

the Bedawin, here as elsewhere, slaying any but strangers. The traveller's experience, however, was chiefly of the Towarah or Sinaitic Bedawin, a race which, bad as bad could be in the early quarter of the present century, has been thoroughly tamed and cowed by the "fear of Allah and the Consul." And the curse pronounced by the Jews against their brother Ishmael, "his hand shall be against every man," etc., must, as was known even in the days of Gibbon, be taken with many a grain of salt.

Yet the Bedawin of Midian have till late years been a turbulent "mixed multitude," and are ready to become troublesome again. It is only by building forts and by holding the land militarily, that the civilized can hope to tame this vermin. I repeat, however, my conviction that the charming Makná Valley is fated to see happy years; and that the Wild Man who, when ruled by an iron hand, is ever ready to do a fair day's work for a fair wage (especially victuals), will presently sit under the shadow of his own secular vines and fig-trees.

About midnight on February 2nd, the tempestuous northerly gale, which had now lasted four days and five nights, ceased almost suddenly: the signs of the approaching calm were the falling of the mercury, the increased warmth of the atmosphere, and the shifting of the wind towards the east. All hailed the change with joy. The travellers looked forward

to ending their peregrinations, while the voyagers, myself included, hoped safely to steam round the Gulf el-'Akabah, and to trace, as correctly as possible, the extent, the trend, and the puissance of the quartz-formations. At Cairo Mr. Consul Rogers told me he had found them in large quantities veining the red grits of Petra; and I thought it possible that the "white stone" may extend under the waters of 'Akabah into the peninsula of Sinai.

CHAPTER VII.

CRUISE FROM MAKNÁ TO EL-'AKABAH.

THIS "Red Sea in the Land of Edom" (1 Kings ix. 26) is still, as Wellsted entitles it, "a vast and solitary Gulf." It bears a quaint resemblance to that eastern fork of the northern Adriatic, the Quarnero, whose name expresses its terrible storms; while the Suez branch shows the longer stretch of the Triestine bifurcation. Yamm Elath or Eloth, as the Hebrews called El-'Akabah, has, by the upheaval of the land, lost more of its fair proportions than its western sister. It was at one time the embouchure of the Jordan, extending up the Wady el-'Arabah to the Asphaltite Lake (Dead Sea), before the former became, so to speak, a hill and the latter a hole. This view dates from olden times. "Si suppone," says Cornelius à Lapide,* "che sia un

* The passage was brought to my notice by my excellent friend, Mr. James Pincherle of Trieste. In the "Atlante Storico e Geografico della Terra Santa, esposto in 14 Tavole e 14 Quadri storici della Palestina," republished (without date) by Francesco Pagnoni of Milan, appears an annexed commentary by Cornelius

sollevamento che accadde, mentre un abbassamento formava il Mar Morto; e che il Giordano si gettasse nel Golfo Elanitico (*Yamm Ailath*), ciò é nel Mar Rosso, prima della destruzione di Sodoma." For the latter date we have only to read, "When a movement of depression sank the lower Jordan Valley, and its present reservoirs, the Tiberias Lake and the Dead Sea, to their actual level." There is nothing marvellous nor unique in the feature, as it appears to those suffering from that strange malady, "Holy Land on the Brain." The Oxus and the Caspian show an identical formation, only the sinking has been on a smaller scale.

Wellsted was unfortunate, both in his weather and in his craft. To encounter a "sea of breakers" and "northerly gales with a high and dangerous swell" in a wretched "bugalá" (*i.e.* Sambúk), and in that perfect tub, the *Palinurus*, was somewhat like tempting Providence,—if such operation be possible.

à Lapide. The latter, Cornelius Van den Steen (Corneille de la Pierre), born near Liege, a learned Jesuit, profound theologian, and accomplished historian, was famous as a Hebraist and lecturer on Holy Writ. He died at Rome March 12, 1637; and a collected edition of his works in sixteen volumes, folio, appeared at Venice in 1711, and at Lyons in 1732. It is related of him that, being called to preach in the presence of the Pope, he began his sermon on his knees. The Holy Father commanded him to rise, and he obeyed; but his stature was so short that he appeared to be still kneeling. The order was reiterated; whereupon Zacchæus, understanding its cause, said modestly, "Beatissime Pater, ipse fecit nos, et non ipsi nos."

No wonder that "in this Gulf, in a course of only ninety miles, the nautical mishaps were numerous and varied." The surveyor, however, neglected a matter of the highest interest and importance, namely, to ascertain whether there be any difference of level between the heads of the Suez and the 'Akabah waters. The vicinity of continuous maritime chains, varying from six to nearly nine thousand feet, suggests an amount of attraction (theoretically) sufficient to cause a sensible difference of plane. It would be well worth while to run two lines of survey, one from El-'Akabah to Suez, and the other down the eastern flank of the Sinaitic Peninsula.

The *Mukhbir*, like the *Palinurus*, promised a certain amount of excitement. Her boiler, I have said, was honeycombed; it was easy to thrust one's fist through it. Mr. David Duguid, the engineer, who on one occasion worked thirty-six hours at a stretch, had applied for sixty new tubes, and he wanted one hundred and fifty: we began with two hundred and forty; we lost, when in the Gulf, from three to nine per diem, a total of seventy-five; and the work of the engine-room and the ship's carpenters consisted in plugging fractures with stays, plates, and wedges. Presently the steam-gauge (*manomètre*) gave way, making it impossible to register pressure; the combustion chamber showed a rent of eighteen inches long by one wide, the result

of too rapid cooling ; and, lastly, the donkey-engine struck work. Under these happy circumstances bursting was not to be expected ; breaking down *was*, a regular collapse which would have left us like a log upon the stormy waves. A new boiler might have cost, perhaps, £900, and the want of one daily endangered a good ship which could not be replaced for £9000. I therefore determined upon a "Safar Khorîyyah," that is, steaming by day and anchoring at night in some snug bay. It was also agreed, *nem. con.*, to tow the Sambúk *El-Musahhil*, in order that, should accidents happen, it might in turn act tug to the steamer ; or even, at a pinch, serve us as a lifeboat.

Nothing becomes Makná better than the view on leaving it. A varied and attractive picture this, with the turquoise-blue of the deep water, the purple and leek-green tints of the shoaly and sandy little port, and the tawny shore dotted by six distinct palm-tufts. They are outliers of the main line, yon flood of verdure, climbing up and streaming down from the high, dry, and barren banks of arenaceous drift, heaped up and filmed over by the wind, and, lastly, surging through its narrow "Gate," with the clifflets of conglomerate forming the old coast. Add the bluff headland of the Ras el-Tárah to the north of the harbour, and behind it the *Rughámat Makná*, the greenish-yellow, flat-backed "horse" of Madyan, which, shimmering in the sunset with a pearly lustre,

forms the best of landmarks. Finish to the south of the Wady with the quaint chopping outlines of the Jebel el-Fahísát, resembling from afar a huge alligator lying on the water; with the similar but lower forms to the north of the valley, both reflected in the Jibál el-Hamrá (the Red Hills), whose curtains of green-black trap are broken by sheets of dull dead-white plaster. Cap the whole with the mighty double quoin of gypseous Jebel el-Kharaj, buttressing the eastern flank of its valley, and with the low, dark metal-revetted hills of the Kalb el-Nakhlah, a copy of the Fahísát. Throw in the background, slowly rising as you recede from the shore, a curtain of plutonic peaks and buttresses, cones, quoins, cupolas, parrot-beaks; with every trick of shape, from the lumpy Zahd to the buttressed and pinnacled 'Urnub; with every shade of mountain-tint between lapis-lazuli and plum-purple. Dome the whole with that marvellous transparent sky, the ocean of the air, that spreads loveliness over the rugged cheek of the Desert; and you have a picture which, though distinctly Arabian, you can hardly expect to see in Arabia.

From the offing, also, we note how the later formations, granite and syenite, seamed with a network, and often topped by cones, of porphyritic trap, have upthrust, pierced, and isolated the older Secondaries. We traced this huge deposit of sulphates and

carbonates of lime from the southern Wady Hamz, through the islets at the mouth of the Birkat 'Akabah, all along the shore of North Midian. Here it crosses diagonally the northern third of the 'Akabah Gulf, and forms the north-eastern base of the Sinaitic Peninsula; whilst eastward it stretches inland as far as Magháir Shu'ayb. The general disposition suggests that before the upheaval of the Ghâts, the Jibál el-Tihámah, this vast gypseous sheet was a plain and plateau covering the whole country, till a movement of depression, caused by the upheaval of the igneous mountains, sank in it the Gulf of 'Akabah. At present the surface is here flat, there hilly like huge billows breaking mostly to the north, and reaching an altitude of twelve hundred feet above the surface. Hence the lines stretching north-south, the Fahísát, the Red Hills, and the Kalb el-Nakhlah, look like so many volcanic island-reefs floating in a sea of greenish-yellow Secondaries.

Like the old Irish post-horse, the difficulty and danger of our "kettle" consisted in starting it: two tubes at once burst, and a new hole yawned in the boiler; moreover, our anchor had been thrown out in a depth of seventy-three feet. *Enfin!* At nine a.m. (February 3rd) we stood straight for the Sinaitic shore, distant thirteen miles (direct geographical), and in three hours we made the Sharm, Marsá or Mínat el-Dahab—the "Golden Anchorage, Cove, or

Port."* Another hour was spent in steaming southwards to the Dock-harbour, wrongly so called in the charts; the pilots, and the many Sambúks that take refuge in it, know the place only as Mínát Ginái (Jinái). The northern baylet, preferred when southerly winds blow, is simply the embouchure of the *Wady Dahab* ("Fiumara of Gold"). The name is properly applied to the sub-maritime section of the valley draining the eastern flanks of the so-called Mount Sinai. This great watercourse breaks through the Ghâts which, always fringing similar peninsulas, peak to the south. It reaches the Gulf at a shallow sag marked by a line of palms, the centre of three: they are fed by their several Nullahs, and are watered with the brackish produce of sundry wells. The *statio malefida* is defended to the north by a short sandspit and a submerged reef; and southwards by a projection of sandstone conglomerate. The latter, running from north-east to south-west, subtends this part of the coast, and serves to build up the land; after a few years the *débris* swept down by the watercourses will warp up the shallows, dividing shore from outlier. Such, in fact, seems to be the general origin of these sandspits; beginning as coralline reefs, they have been covered with conglomerates, and converted into *terra firma* by the rubbish shot out by the Wady-mouths.

* The name and other points connected with it have been noticed in "The Gold-Mines of Midian," p. 338.

The southern port, "Ginái," is formed by a bend in the reef which sweeps round from east to south-west like a scorpion's tail. The natural sea-wall, at once dangerous and safety-giving, projects, to the south and south-east, *diabolitos* of black rock visible only at high tide: inshore the sickle-shaped breakwater runs by east to south-west, becoming a "sandy hook," and enclosing a basin whose depth ranges from seven to twelve fathoms. Its approach from the south is clean; and the western opening is protected by the tall screen of coast cliffs, the Jebel el-Ginái, whose deep-black porphyritic gorge seemingly prolongs that of Midianite Tayyib Ism. This is a section of the Jibál el-Samghi, the coast-range which extends as far north as the Wady Watír. The Dock-port, so useful when the terrible norther blows, has an admirable landmark, visible even from Sináfir Island, and conspicuous at the entrance of the Gulf. Where the sandy slopes of South-Eastern Sinai-land end, appears a large white blot, apparently supporting a block, built, like a bastion, upon a tall hill of porphyritic trap. We called this remnant of material harder than the rest, *Burj el-Dahab*—"the Tower Hill of Dahab." I have been minute in describing the Golden Harbour: scant justice has been done to it by the Hydrographic Chart, and it will prove valuable when the Makná mines are opened. Ahmed

Kaptán vainly attempted soundings — he was too ill to work. Wellsted's identification of the site with Ezion-geber (ii. ix.), and the reef with the rock-ledge which wrecked Jehosaphat's fleet, has one great objection—no ruins are known to exist near it.*

The formation of this part of Sinai, as far as we can see from the shore, reflects, in wilder forms and more abrupt lines, the opposite coast of Midian: there is, however, the important difference that the Secondaries and the quartz-veins, there so important, are here wanting. The skeletons of mountain and hill appear as if prolonged under water. The ruddy syenite is dyked and veined by the familiar network of green-black porphyritic trap; the *filons* are disposed in parallels striking north-south, with a little easting; the dip is westerly (about 35° mag.), and the thickness extends to hundreds of feet, often forming a foundation for the upper cliff. The sub-aërial parts are the same warty and pimply growth which appears on the other side. Nothing could be more wearisome to the Alpine climber than such a country: he would scale the peaks and ridges for fifty feet, to descend thirty on the other side; and the frequent Wadys, ankle-deep in loose sand, generally end in steep stony *couloirs*. The watercourses, whose broad mouths are scattered with thin green,

* See "The Gold-Mines of Midian," p. 338.

contain pebbles and rolled quartzes, including fine specimens of the crystallized variety.

We landed, after an hour's row in the gig, at the central or main line of palms ; and on the banks of Wady Dahab, here a full mile wide, we found the works of man, like those of Nature, a copy of Makná. The date trees and clumps are hedge-closed ; two scatters of *'Ushash* (tabernacles) show round towers of rough stone, broken and patched with palm-frond ; and, further north of the Golden Valley, a few old Arab graves have been weathered into mere heaps of large stones. These are the Kubur el-Nasárá ("Nazarene's Graves") of Burckhardt,* a name apparently forgotten by the present generation. We vainly sought and asked after ruins: of old, however, "Dízahab" might have served to disembark cargo which, by taking the land-route northwards, as the Christian pilgrims still do from El-Nuwaybi', would avoid the dangerous head-waters of El-'Akabah. Nor could we believe with Pococke † that the place derived its name from the mica shining like gold ; his theory is stultified by the fact that mica is by no means a prominent feature, even had the Ancients been so ignorant as to be deceived by it.

* "Travels in Syria, etc.," p. 524.

† In "The Gold-Mines of Midian," p. 338, this name became, by virtue of the author's cacography, "Beoche."

The people were by no means communicative. An elderly man, with a red turban and sword by side, hurried away from us when we addressed him, leaving his middle-aged wife to follow with a babe on shoulder and a boy in hand: she also refused to speak, waving her hand by way of reply to every question. At last a semi-civilized being, acquainted with the Convent of St. Catherine, Selím bin Husayn, of the Muzaynah tribe, satisfied our curiosity in view of tobacco, and offered a rudely stuffed ibex-head for a shilling. In the evening our fishermen visited the reef, which supplied admirable rock-cod, a bream (?) called Sultan el-Bahr, and Marján (a *Sciæna*); but they neglected the fine *Sirinjah* ("sponges"), which here grow two feet long. The night was dark and painfully still, showing nought but the youngest of moons, and the gloomiest *silhouettes* of spectral mountains.

We set out at seven a.m. on the next day, when an *Azyab* or south-easterly wind was promised by the damp air, the slaty sea, and the gloomy nimbi on the hill-tops. A small party landed after two hours' steaming, in search of quartz, which proved to be chloritic sandstones and limestones. In the broad valley they found a few Muzayni families, with their camels, sheep, and goats. These unfortunates had no tents, sleeping under the trees; they were desperate beggars, and, although half-starved, they asked

a napoleon for a kid, declaring that such was its price at the quarantine station of Tor. Here the errors of the Hydrographic Chart, which have been copied literally by the latest and best popular books, such as Professor Palmer's "Desert of the Exodus," began to excite our astonishment. For instance, Ras Kusayr ("the Short One") becomes *Ras Arser*—what a name for a headland! A good survey will presently become a *sine quâ non*. Unfortunately Ahmed Kaptán was suffering so much that I could not ask him to make solar observations; while the rest of us had other matters in hand. It was a great disappointment, where so much useful work remains to be done.

Hereabouts the sterile horrors of the hideous Sinaitic shore seem to reach their climax. The mountains become huge rubbish-heaps, without even colour to clothe their indecently nude forms; and each strives with its neighbour for the prize of repulsiveness. The valleys are mere dust-shunts that shoot out their rubbish, stones, gravel, and sand, in a solid flow, like discharges of lava. And, as Jebel Mazhafah, on the opposite coast, is the apex of the visible eastern Ghâts, so beyond this point the Sinaitic sea-chain of mountains begins to decline into mere hills, while longer sand-points project seawards. Such is the near, the real aspect of what, viewed from Makná, appears a scene in fairy-land,

decked and dight in heavenly hues of blue and purple and rosy light—

> "Where the bald blear skull of the Desert
> With golden mountains is crowned."

The first sign of a change of formation appeared near the "Lower (southern) *Nuwaybi'*" ("the Little Spring"), which the chart calls "Wasit." Here the shore shows blots of dead-white and mauve-red, in which our engineer at once detected quartz. Seeing it prolonged in straight horizontal lines, and the red overlying the white, I suspected kaolin and the normal *Tauá* (coloured clays): my conjecture was confirmed on the next day. Hereabouts, Wellsted (ii. 151) also remarked the colouring of the hills, which resemble those of "Sherm;" some of a deep-blue tinge, and others streaked with a brilliant red and violet. We then doubled a long sandspit running out to sea eastward, and forming, on the north, a deep bay well protected from the souther; whilst several lines of reef and shallow to the north defend it from the angry *Bora*. This anchorage is known to the pilots as "Wásit;" and it occupies the southern half of the bay, the northern half and its palm-groves being called the "Upper Nuwaybi'." About "Wásit" the date-palms are scattered, and the large sand-drifts ever threaten to bury them alive. Behind it yawns the great gash, "Wady Watír," which shows its grand lines even from the

opposite side of the gulf: this is the route by which Christian pilgrims from Syria make the Sinai monastery, rounding on camels the northern end of El-'Akabah. The main valley receives from the north the Wady el-'Ayn, which can be reached in half a day. From the south, distant one whole march, comes the Wady el-Hazrah. This is doubtless the Hazeroth of the Exodus, meaning the fenced enclosures of a pastoral people; and a modern traveller figures and describes it as "the most beautiful and romantic landscape in the Desert." At least, so said the lately shipped guide, Mabrúk ibn Sulayyim el-Muzayni.

After a run of six hours and thirty minutes (= thirty miles), we cast anchor off Wásit: there was nothing to see ashore, save some wretched Muzaynah, two males and three females, helpmates meet for them, living like savages on fish and shell-molluscs; drinking brackish water, and sleeping in the "bush," rather than take the trouble to repair the huts. They have no sheep, but a few camels; and, by way of boats, they use catamarans composed of two palm-trunks: their home-made hooks resemble the schoolboy's crooked pin. Yet these starvelings would not fetch specimens of the white stuff, distant, perhaps, two direct miles of cross-cut, seen near *Nuwaybi'*, and still visible. They also refused, without preliminary "bakhshísh,"

to show or even to tell where certain ruins, concerning which they spoke or romanced, are found in their hills. And yet there are theologians who would raise Poverty, the most demoralizing of all conditions, to the rank of an "ecclesiastical virtue."

At 6·30 a.m. on the next day, the *Mukhbir* stood eastwards to avoid the northern reef. Presently we passed the "Upper Nuwaybi'," a creeklet to the north-west of Wásit, with a straggling line of palms fed by the huge Wady Muzayríj. From this point to the 'Akabah head all the coast is clean of man. The Jibál el-Samghi now become the Sinaitic *Jibál el-Shafah* ("Lip Mountains"), the latter stretching northwards to the Hajj-road, and forming the western wall of the 'Arabah valley, whose name they assume (*Jibál el-'Arabah*). The scene abruptly shifts. A mottle of clouds sheds moving shadows over the hill-crests, and relieves them from the appalling monotony of yesterday. Brilliant rainbow hues, red, green, mauve, purple, yellow and white clays, gleam in the lowlands, and form dwarf bluffs; while inland, peering above the granites, the syenites, and the porphyries of the coast, pale quoins and naked cones again show the familiar Secondary formation of Midianitish Makná. We were not surprised to hear that sulphur had been found in the gypsum of these eastern Ghát̀s of Sinai, when a Jebel el-Kibrít, approached by the Wady Suwayr,

was pointed out to us. The natural deduction is that the brimstone formation is, like the turquoise, the copper, and the manganese, a continuation of the beds that gave a name to Mafka-land; while the metalliferous strata round, in horseshoe-form, the head of El-'Akabah, and run down the Arabian shore, till they become parallel with those subtending the seaboard of Africa.

The view of the eastern or Midianite coast was even more varied and suggestive. Far inland, and tinged light-blue by distance, rose the sharp, jagged, and sawlike crests of El-Sharaf, under which the Hajj-caravan wends its weary way, thus escaping the mountains which dip perpendicularly into the sea. Then come the broad and sandy slopes, here and there streaked with dark ridges, spanned by the *Sultáni* or Sultan's high-road, and stretching from the Gulf to the inner heights. The latter are no longer a double parallel chain: they bend from south-south-east to north-north-west, and become the Jibál el-Sharà', anciently "Mount Seir;" in fact, the eastern retaining-wall of the great Wady 'Arabah. Evidently they are primary, but a white and purple patch, visible from afar, suggested a Secondary remnant. Several of the peaks, especially the blue block El-Yitm, appeared to be of great height; we all remarked its towering stature and trifid head-piece, apparently upwards of five thousand feet high,

before we had heard the tale attached to it. Abreast of us and on the shore, lie the large inlet and little islet El-Humayzah : the surveyors have abominably corrupted it to "Omeider." North of it a palm-grove, lining the mouth of a broad Wady which snakes high up among the sands and stones, denotes the Hajj-station, El-Hakl (Hagul), backed by tall arenaceous buttresses.

After six hours (= twenty-two knots and a half), we anchored in the deep channel, about three-quarters of a kilomètre wide, that separates the Sinaitic mainland from the northern one of the only two islands known in the 'Akabah Gulf, a scrap of rock crowned with picturesque grey ruins. The Jezírat Fara'ún of the maps, the Isle of Pharaoh, concerning whom traditions are still current, it is known to the 'Akabites only as *Jebel el-Kala'h* or "Fort-hill:" hence El-Graa in Laborde, and Jezírat El-Qŭreieh in Arconati.* Burckhardt alone mentions that the ruins are known as El-Dayr—"the Convent." This human lair is encircled by barrier-reefs of coralline, broad to the south-west and large in scattered places : eastward they form a shallow wall-like ledge, beyond which blue water at once begins. The island-formation is that of the opposite coasts, Midian and Sinai, grey granite dyked with decaying porphyritic trap,

* "Diario in Arabia Petrea" (1865) di Visconte Giammartino Arconati. Roma, 1872.

and everywhere veined with white and various-coloured quartzes. The shape is a long oval of about three hundred and twenty by one hundred and fifty-two mètres; a saddleback with two stony heads, the higher to the north, rising a hundred feet or so above sea-level. Pommel and cantle are connected by a low seat, a few yards of isthmus; and the three divisions, all strongly marked, bear buildings. The profile from east and west shows four groups: to the extreme north a tower, backed by the castle donjon, on the knob of granite here and there scarped; the works upon the thread of isthmus; and the walls and bastions crowning the southern knob, which, being lower, is even more elaborately cut to a perpendicular.

We landed upon the eastern side of the islet-rock, where the trunk of a broken mole is covered in rear by a ruined work. Here, being most liable to attack, the fortifications are strongest; whereas on the west side only a single wall, now strewn on the ground, with square *Burj* at intervals, defends the little boat-harbour. The latter appears at present in the shape of a fish-pond, measuring sixty by forty mètres; sunk below sea-level, fed by percolation, and exceedingly salt. To the east of this water, black cineraceous earth shows where the smith had been at work: we applied the quarrymen to sift it, without other results but bits of glass, copper, and iron nails.

The pier leads to a covered way, enabling the garrison safely to circulate round the base of the islet. Behind it a path, much broken and cumbered by *débris* of the walls, winds up the southern face of the northern hill, which supports the body of the place: it meets another track from the west, and a small work defends their junction. Below it, outside the walls, we found a well sunk about eight feet in the granite, and cemented with fine lime, the red plaster in places remaining. Above this pit a *Mihráb*, or prayer-niche, fronting Meccah-wards (more exactly 175° mag.) shows the now ruinous mosque: the Bedawi declare that it was built by a "Pasha." Higher again, upon a *terreplein*, are lines of tanks laid out with all that lavishness of labour which distinguishes similar works in Syria: it is, however, difficult to assign any date to these constructions. The cisterns were explored by Mr. Clarke and Lieutenant Amir, who dug into and planned them. They descended by ropes, although there are two flights of steps to the west and the south-west. The tanks are built up from the base with blocks one foot nine inches long: seven inches deep of rubbish were cleared away before reaching the floor, composed of black stones bedded in layers of cement above and below, and resting upon the ground-rock. The diggings yielded only big pieces of salt fallen from the walls, and a broken handmill

of basalt. The sides are supported by pilasters of cut stone, and the crown by four pillars in a double row : the dividing arches, according to the plan, are not symmetrical. Hard by, measuring twelve mètres by twelve, is the quarry whence the stone was taken ; and near it stands the normal Egyptian pigeon-tower, with its nest-niches.

The donjon or body is defended by an enceinte, opening northwards upon a large yard, where, doubtless, the garrison mustered, and whence a flight of steps leads to the wicket. The inside of the works shows the roofless party-walls still standing ; and the ground is scattered over with the remains of many different races : there are drums of columns and fragments of marble pillars, but no sign of an inscription. Even in the upper ramparts two epochs are distinctly traceable, the mediæval and the modern. The lower ashlar, mostly yellow grit, is cut and carefully cemented ; the upper part is generally of rough dry stone, the plutonic formations of the islet heaped up with scanty care. The embrasures are framed with decaying palm-trunks ; the loop-holes belong partly to the age of archery ; and nothing can be ruder than the battlements placed close together, as if to be manned by bowmen, while in not a few places there are the remains of matting between the courses. At the highest part we found another carefully cemented *Sehrij*, or underground cistern,

with two sharp-topped arches divided by a tall column, Saracenic certainly and not *Doric:* * above it a circular aperture, arched round with the finest bricks, serves to lighten the superstructure. It communicates to the north with a Hammám, whose plan is easily traced by the double flues and earthenware tubes, well made and mortared together. Here we found inscribed on the plaster, "Arona Linant 22 Mars 1846."

The southern knob of the islet supports similar but inferior constructions, still more ruinous withal: its quarry is on the lower slopes, and its granitic base has also been scarped seawards. Two stout walls, twelve feet thick below and six above, crossing the length of the rock from north to south, here meet in a *Burj* which shows signs of fine tiles on an upper floor; whilst a third wall forms a southern spine bisecting the tail of the "Jezírat." The castle is much more dilapidated than when sketched by Rüppell, the first Frank who visited El-'Akabah, in 1826. His illustration (p. 214) of *Ruinen auf der Insel Emrag* shows a single compact building in good preservation, the towers being round, when all are square; and it is garnished with the impossible foreground and background of his epoch; the former, enlivened with a Noah's-Ark camel, being placed quite close, when it is distant some ten miles. In

* Wellsted, ii. 143.

the German naturalist's time, the now desolate island was occupied by *die Emradi*, a tribe which he suspected to be Jewish, and of which he told the queerest tales: I presume they are the 'Imrám-Huwaytát of El-Hakl and the Hismá. Wellsted's short description (II. ix) is still correct as in 1838.

The castle is evidently European, built during the days when the Crusaders held El-'Akabah; but it probably rests upon Roman ruins; and the latter, perhaps, upon Egyptian remains of far older date. It protected one section of the oldest overland route, when the islet formed the key of the Gulf-head. It subsequently became an eyrie whence its robber knights and barons—including possibly "John, the Christian ruler of 'Akabah" (A.D. 630), and, long after him, madcap Rainald de Chatillon (A.D. 1182)—could live comfortably and sally out to plunder merchants and pilgrims. The Saracenic buildings may date, as the popular superstition has it, from the reign of Saláh el-Dín (Saladin) who, in A.D. 1167, cleared his country of the Infidel invader by carrying ships on camel-back from Cairo. Later generations of thieves, pirates, and fishermen naturally made it their refuge and abode. I hardly anticipate for it great things in the immediate future, although it has been proposed for a coal-depôt.

After a day given to tube-tinkering with tompions, stays, plugs, plates, and wedges, to the dis-

traction of the ship's carpenter and blacksmith, steam was coaxed up; and, at 9.15 a.m. (February 7th), we ran northwards through the deep narrow channel, rounding the upper end of the Pharaohnic islet. Here the encircling wall is defended by two square *Burj*, to the north-east and to the north-west, flanking what is probably the main entrance. On the Sinaitic mainland to port, the broad mouth of the Wady el-Masri leads to the *Nakb*, the rocky Pass which, so much dreaded till repaired by Abbás Pasha, is popularly said to be described in *El-'Akabah*—"the Steep." The Bedawin, however, declare that the *locale* is so called because the Gulf here "heels" (*Ya'kkab el-Bahr*), that is, comes to an end. At the head of the sea, the confused mass of the Sinaitic mountains range themselves in line to the west, fronting its sister wall, the grand block El-Sharâ' (Seir); while in the middle lies the southern section of the "Ghor," the noble and memorious Wady el-'Akabah, supposed to have given a name to Arabia.* The surface-water still rolls down it after rains; and the mirage veiling the valley-sole prolongs the Gulf-waters far to the north, their bed in the old geologic ages. The

* "Ghor" is the whole depression including the Jordan and the Dead Sea, while El-'Akabah is its southernmost section. In older maps this gulf is made to fork at the north—a topographical absurdity. I have also fallen into a notable blunder about the Jebel el-Sharâ', in "The Gold-Mines of Midian," note †, p. 175.

view was charming to us; for the first time since leaving Suez we saw the contrast of perpendicular and horizontal, of height and flat. Nothing could be more refreshing, more gladdening to the eye, after *niente che montagne*, as the poor Italian described the Morea, than the soft sweeps and the level lines of the hollow plain: it was enjoyable as a heavy shower after an Egyptian summer. On the next day also, the play of light and shade, and the hide and seek of sun-ray and water-cloud, gave the view a *cachet* of its own. I am sorry to see that scientific geologist, Mr. John Milne, F.G.S.,* proposing to cut through the two to five hundred feet of elevation which separate the Gulf from the Dead Sea, some thirteen hundred feet below water level. Does he reflect that he simply proposes to obliterate the whole lower Jordan? to bury Tiberias and its lake about eight hundred feet under the waves? in fact, to overwhelm half the Holy Land in a brand-new nineteenth-century deluge, the Deluge of Milne?

All were delighted at having reached our northernmost point, without another visit from El-Aylí. After one hour and thirty-five minutes (= seven miles) the *Mukhbir* anchored, in twelve fathoms of water, a couple of hundred yards off the fort and its dependent group of brown-grey mud buildings,

* See Appendix, p. 537, "Geological Notes," etc., in Dr. Beke's "Sinai in Arabia."

half concealed by the luxuriant palms. The roads are safe enough: here the north wind has not yet gained impetus; the south-easter is bluffed off by a long point; and in only the strongest *Gharbí* ("westers") ships must run for refuge under the cliffs of Sinai.

This is not the place to enter into the history of Elath, Ailat, Ailah, Ælana, 'Akabah, or 'Akabat-Aylah: Robinson (i. 250–254) and a host of others give ample and reliable details. Suffice it to say that the site is mentioned in the Wanderings (Deut. ii. 8), which must not be confounded with the Exodus. It is subsequently connected with the gold-fleet (1 Kings ix. 26, etc.); and, conquered by Rezin, king of Syria (B.C. 740), it was permanently lost to the Jews (2 Kings xvi. 6). Under the Romans, this great station upon the "Overland" between the southernmost Nabathæan port, Leukè Kóme, and Petra, the western capital, was a *Præsidium* held by the Tenth Legion; and a highway connected it with Gaza (Ghazzah), measuring one hundred and twenty direct miles, when the Isthmus of Suez numbers only ninety-five. In Christian times it had a prince and a bishop; and, under Mohammed and the early Moslems, it preserved an importance which lasted till the days of the Crusaders. El-Makrízi describes its ruins, and here places the northern frontier of the Hejaz: in his

day "Madyan" was thus a section of the Tihámat el-Hejaz, the maritime region of the Moslems' Holy Land.

A group of camels had gathered on the shore; and inland lay a mob of pilgrims, the Hajj el-Magháribah, numbering some three thousand North-West Africans; an equally large division had already preceded them to Suez. Letters from Egypt assured us that cholera had broken out at Meccah and Jeddah, killing in both places ninety-eight per diem. Here the pilgrims swore by their Allah that all were, and ever had been, in perfect health; it is every man's business to ignore the truth, to hide the sick, and to bury the dead out of sight. Hard swearing, however, did not prevent the Hajj undergoing a long quarantine before entering Suez. The English journals had reported another disaster: "Now that the Sultán's power is collapsing, the most powerful Bedaween tribes are rising because their subsidies are withheld. For weeks the great pilgrim-traffic of autumn (? add the other three seasons) was arrested by them; and even between Medina and Mecca the road is unsafe." Of this I could hear nothing.

We awaited, on board, the departure of the pauper and infected "Mogrebbins:" when the place was clear we fired a gun, and, after an answer of three, I received the visits of the fort officials. They were civility itself; they immensely admired our

two "splendid buttons" of poor iron; and they privily remarked, with much penetration, that the colour was that of brass: they were, in truth, far wiser than we had been. With them came Mohammed ibn Jád (not Iját) el-'Alawí (of the 'Alawiyyin-Huwaytát), who styles himself "Shaykh of El-'Akabah:" he is remarkable for frank countenance, pleasant manners, and exceeding greed. He was gorgeously arrayed in an overall (*'Abáyah*) of red silk and gold thread (*Gasab*), covering a similar cloak of black wool: besides which, a long-sleeved Egyptian caftán, striped stuff of silk and wool, invested his cotton *Kamís* and *Libás* ("bag-breeches"). To his *A'kál* or "fillet" of white fleecy wool hung a talisman; his *Khuff* ("riding-boots") were of red morocco, and his sword-scabbard was covered with the same material. The Arab ever loves scarlet, and all varieties of the sanguine hue are as dear to him as to the British soldier.

We held sundry long confabs with Shaykh Mohammed, who seemed to know the neighbourhood unusually well. He declared that there were ruins but no trees at 'Ayn el-Ghadyán, distant one day's march up the Wady el-'Arabah, and lying near the western wall. This is the place first identified by Robinson, who says nothing about the remains, with Ezion-geber, while Dean Stanley ("Sinai," etc., p. 85) opines that we have no means

of fixing the position of the "Giant's shoulder-blade."* Josephus ("Antiq.," viii. 6, 4) places it near Ælana; and the present distance from the sea, like that of Heroöpolis (*Shaykh el-Ajrúd?*) from Suez, may show the rise of the Wady el-'Arabah within historic times. The Shaykh assured us that "Marú" was to be found everywhere among the hills east of El-'Akabah, and Mr. Milne (Beke, p. 405) brought from the very summit of the "true Mount Sinai" (Jebel el-Yitm) a "fine piece of quartz, the same kind of stone as the Brazilian pebbles of which they make the best spectacles." We carried off a specimen of native copper from the Sinaitic Jebel and Wady Raddádí, some six hours to the north-west of the fort: it is found strewed upon the ground but not in veins (?). The stone looked so new that we concluded it to be the work of later generations; and the traces of smelting furnaces at old Elath confirmed the idea.

Shaykh Mohammed, who boasted that his tribe could mount five hundred horses—by which understand five—offered his safeguard to the Hismá, three easy marches, without pass or *climax*, up the Wady Yitm to the east, and behind the range El-Sharà'. He made the region begin northwards at one day south of El-Ma'án, the fort lying to the east-south-east of Petra; and he confirmed the accounts of Mabrúk,

* See "The Gold-Mines of Midian," pp. 338, 339.

the guide, who was never tired of expatiating upon its merits. The fountains flow in winter, in summer the wells are never dry; the people, especially the Huwaytát, are kind and hospitable; sheep are cheap as dirt. At Jebel Saur a Maghrabi magician raised a *Kidr Dahab* ("golden pot"); but, his incense failing at the critical moment, it sank before yielding its treasures.

Pointing north-eastwards to the majestic pile in the Sharâ' or Seir Mountains, the Jebel el-Yitm,* a corruption of El-Yatim, the Shaykh told us a tale that greatly interested us. It appears, I have said, a remarkable formation from whose group of terminal domes and pinnacles the tomb of Aaron on Mount Hor is,† they say, visible; and it is certainly the

* This Yitm, which Bruckhardt first wrote El-Ithem, unfortunately gave Dr. Beke an opportunity of finding, in his "Wady el-Ithem," the "Etham of the Exodus." (See "The Gold-Mines of Midian," pp. 359—361). The latter has been conclusively shown by Brugsch-Bey in his lecture, "La Sortie des Hébreux d'Égypte" (Alexandrie: Mourès, 1874), p. 31, to be the great fort of Khatom, on the highway to Phœnicia. The roots *Khatam*, *Asham*, *Tam*, like the Arabic "Khatm" (ختم), signify to seal up, close; and thus *Khatom* in Egyptian, as *Atham*, *Etham* in Hebrew, means a closed place, a fortress. Wallin calls the "Yitm," which he never visited, "Wâdî Lithm, a cross valley opening through the chain at about eight hours (twenty-four miles) north of 'Akabá"—possibly Lithm is a misprint, but it is repeated in more than one page.

† Dr. Beke, who afterwards changed his mind, would identify Hor, the burial-place of Aaron, with Horeb of the Rock ("Orig. Biblicæ," 195). He then adopted ("Sinai in Arabia," p. 77) the opinion of St. Jerome ("De Situ," etc., p. 191), "Mihi autem

highest visible peak of the grand wall that forms the right bank of the Wady Yitm. Thus it is but one of a long range; and the Bedawin visit it, to make sacrifice, according to universal custom, at the tomb of a certain Shaykh Bákir. Here, some years ago, came an old man and a young man in a steamer (*Erin*) belonging to his Highness the Khediv: the former told the Arabs that in his books the height was called the *Jebel el-Núr* ("Mountain of Light"), a title which apparently he had first applied to the *Jebel el-Lauz;* and the latter climbed to the mountain-top. After that they went their way.

I quite agree with my lamented friend, Dr. Beke, that it is an enormous blunder to transfer Midian, the "East Country," to the *west* of El-'Arabah, and to place it *south* of the South Country (El-Negeb, Gen. xx. 1). I own that it is ridiculous to make the Lawgiver lead his fugitives into a veritable *cul-de-sac,* then a centre of Egyptian conquest. Evidently we have still to find the "true Mount Sinai," if at least it be not a myth, pure and simple. The profound Egyptologist, Dr. Heinrich Brugsch-Bey,

videtur quod duplice nomine mons nunc Sina, nunc Choreb vocatur." Wellsted (ii. 103) also makes Horeb synonymous with "Wilderness of Sinai." Professor Palmer (118) translates Horeb by "ground that has been drained and left dry:" he would include in it the whole Desert of Sinai, together with "the Mountain;" whilst he warns us that the monks call the whole southern portion of their mountain "Horeb." Others confine "Horeb" to Jebel Musá, and even to its eastern shoulder.

observes that the vulgar official site lies to the south of and far from the line taken by the Beni Israil, and that the papyri show no route leading to it; whilst many have remarked that the Sinai of the Exodus is described as a single isolated mountain or hill, not as one projection from a range of heights.* I would also suggest that the best proof of how empirical is the actual identification, will be found in the fact that the Jews—except only the Rev. Jos. Wolff (1821)—have never visited, nor made pilgrimages to, what ought to be one of their holiest of holy places. This crucial point has been utterly neglected by the officers of the Ordnance Survey of Sinai. It is evident that Jebel Serbal dates only from the early days of Koptic Christianity; that Jebel Musá, its Greek rival, rose after the visions of Helena in the fourth century; whilst the building of the convent by Justinian belongs to A.D. 527. Ras Sufsafah, its rival to the north, is an affair of yesterday, and may be called the invention of Robinson; and Jebel Katerina, to the south, is the property of Rüppell. Thus the oft-quoted legends of the Sinaitic Arabs are mere monkish traditions, adopted

* For *the* Mount or Mountain see Exodus xix. 2, 12, 20, 23; also xxxii. 19; Deut. iv. 11, and v. 23; Heb. xii. 18. Josephus ("Antiq.," II. ii. 1) speaks of it similarly as a "mountain," and describes it with all the apparatus of fable; while his compatriot and contemporary, St. Paul (Epist. to the Galatians iv. 25), calls it only "Mount Sinai in Arabia," *i.e.* east of Jordan.

by Ishmaelitic ignorance. The great Lawgiver probably led his horde of fugitive slaves over the plains of El-Negeb and El-Tih, north of the so-called Sinaitic mountain-blocks, marching in small divisions like those of a modern Bedawi tribe; and we know from the latest surveys that the land, now alternately a fiery or frozen wilderness, was once well supplied with wood and water. The "true Mount Sinai" is probably some unimportant elevation in the Desert named by moderns after the Wanderings.

Dr. Beke, I am persuaded, is right in denying that Mount Sinai occupies the site at present assigned to it; but I cannot believe that he has found it in the Jebel el-Yitm, near El-'Akabah. His "Mount Bárghir." is evidently a corruption of the "Wali" on the summit, Shaykh Bákir—a common Arab name. His "Mountain of Light" is a term wholly unknown to the Arabs, except so far as they would assign the term to any saintly place. The "sounds heard in the mountain like the firing of a cannon," is a legend applied to two other neighbouring places. All the Bedawin still sacrifice at the tombs of their Santons: at the little white building which covers the reputed tomb of Aaron, sheep are slaughtered and boiled in a huge black cauldron. The "pile of large rounded boulders" bearing "cut Sinaitic inscriptions" (p. 423) are clearly *Wusúm*: these tribal-marks, which the highly imaginative M. de

Saulcy calls "planetary signs," are found throughout Midian. The name of the Wady is, I have said, not El-Ithem, but El-Yitm, a very different word. Lastly, the "Mountain Eretówa," or "Ertówa" (p. 404), is probably a corruption of *El-Taur* (El-Hismá), the "inaccessible wall" of the plateau, which Dr. Beke calls Jebel Hismá. My old friend, with his usual candour and straightforwardness, honestly admitted that he had been "egregiously mistaken with respect to the volcanic character of (the true) 'Mount Sinai.'" But without the eruption, the "fire and smoke theory," what becomes of his whole argument?* Save for the death of my friend, I should have greatly enjoyed the comical side of his subject; the horror and disgust with which he, one of the greatest of geographical innovators, regards a younger rival theory, the exodist innovation of Dr. Heinrich Brugsch-Bey. The latter is the first who has rescued the "March of the Children of Israel" from the condition of mere guesswork described by the Rev. Mr. Holland.

Under the guidance of our new acquaintances, we rowed to the site of Elath, which evidently extended all round the Gulf-head from north-east to north-west. Linant and Laborde ("Voyage de l'Arabie Petrée," etc., Paris, 1830) confine it to the western shore, near the mouth of the Wady

* See *Athenæum*, February 8th and 15th, 1873.

el-'Arabah, and make Ezion-geber to face it—as suggested by the writings of the Hebrews. Disembarking at the northern palm-clump, we inspected El-Dár, the old halting-place of the pilgrim-caravan before New 'Akabah was founded. The only ruins* are large blocks under the clearest water, and off a beach of the softest sand, which would make the fortune of a bathing-place in Europe. Further eastward lies an enclosed date-orchard called El-Hammám: the two pits in it are said to be wells, but I suspect the treasure-seeker. Inland and to the north rise the mounds and tumuli, the sole remains of ancient Elath, once the port of Petra, which is distant only two dromedary marches. During rain-floods the site is an island: to the west flows the surface-water of the Wady el-'Arabah, and eastward the drainage of the Wady Yitm has dug a well-defined bed. A line of larger heaps to the north shows where, according to the people, ran the city wall: finding it thickly strewed with scoriæ, old and new, I decided that this was the *Siyághah* or "smiths' quarter." Between it and the sea the surface is scattered with glass, shards, and slag: I inquired in vain for "written stones," and for the petroleum reported to exist in the neighbourhood.

Shaykh Mohammed declared that of old a chain stretched from the Pharaohnic island-castle to the

* They were heard of by Burckhardt ("Syria," p. 510).

Jebel el-Burayj or Kasr el-Bedawi on the Midianite shore: this chain is a *lieu commun* of Eastern legends. The "Bedawi's Castle" is mentioned by Robinson and Burckhardt ("Syria," p. 510), as lying one hour south of El-'Akabah. Moreover, the Wady Yitm, whose upper bedshows two ruins, was closed, at the narrow above the mouth, by a fortified wall of stone and lime, thus cutting off all intercourse with the interior. The Bedawin declare it to be the work of King Hadíd (Iron), who thus kept out the Beni Hilál of El-Nejd. We were shown large earth-dams, thrown across the embouchure of the torrent to prevent the floods injuring the palm-groves of New 'Akabah. These may date from ancient days, when the old city here extended its south-eastern suburb; as usual, they have become a cemetery, modern and Moslem; and on the summit of the largest the holy Shaykh el-Girmí (Jirmí) still names his ruined tomb.

Walking round the eastern bay, where the ubiquitous black sand striped the yellow shore, we observed that the tide here rises only one foot,* whereas at Suez it may reach a mètre and a half to seven feet. According to the chart, the springs attain four feet at "Omeider" (El-Humayzah), some nineteen direct knots to the south; and in the Sharm Yáhárr we

* Beke (p. 446), on February 6th, estimated the rise of the tide at 'Akabah head to be three to four feet. This is greatly in excess of actuality; but, then, he was finding out some rational way of drowning "Pharaoh and his host."

found them about one mètre. Presently we entered, by wooden doors with locks and keys, the carefully kept palm-groves, walled with *pisé* and dry stone. Wells were being sunk; and a depth of nine to ten feet gave tolerably sweet water. Striking the broad northern trail which leads to the Wady Yitm and to the upper El-'Arabah, still a favourite camping-ground of the tribes,* we reached the modern settlement, which has something of the aspect of a townlet, not composed, like El-Muwaylah, of a single house. The women fled at our approach, as we threaded the alleys formed by the mud tenements.

The fort† is usually supposed to have been built by Sultán Selim I., in A.D. 1517, or three years before his death, after he had subdued the military aristocracy of the Mamlúks, who had ruled Egypt for three centuries. Much smaller than that of El-Muwaylah, it is the normal affair: an enceinte once striped red and white; curtains flanked by four

* Those living further north, the 'Ammárín and the Liyásinah, are unmitigated scoundrels and dangerous ruffians: amongst the former Shaykh Salámah ibn 'Awwád with his brother, and among the latter Ibrahím el-Hasanát, simply deserve hanging. In Edom, too, 'Abd el-Rahmán el-'Awar ("the One-eyed"), Shaykh of the Fellahín, is "wanted;" and the 'Alawín-Huwaytát would be greatly improved were they to be placed under Egyptian, instead of Syrian, rule.

† Dr. Beke's artist (p. 374) has produced a work of imagination, especially in the foreground and background of his "Migdol or Castle of Akaba."

Burj, all circular, except the new polygon to the north-west; and a huge, gloomy main-gateway fronting north, and flanked by two bastions. On the proper right side is a circle of stone bearing, without date, the name of "Sultán Selim Khan el-Fátih," who first laid out the pilgrim-route along the Red Sea shore. Inside the dark cool porch a large inscription bears the name "El-Ashraf Kansúr (*sic*)* El-Ghori," the last but one of the Circassian Mamlúk kings of Egypt, who was defeated and slain by the Turkish conqueror near Aleppo in A.D. 1501. Above it stand two stone shields dated A.H. 992 (= A.D. 1583—1584). In the southern wall of the courtyard is the mosque, fronted by a large deep well dug, they say, during the building of the fort: it still supplies the whole Hajj-caravan with warmish sweet water. On the ground lies a good brass gun with Arabic inscription and numerals; and the towers, commanding the little kitchen-gardens outside the fort-wall, are armed with old iron carronades. The garrison, consisting of half a dozen gunners and a few Básh-Buzuks, looks pale, bloodless, and unwholesome: the heats of summer are almost unsupportable; and 'Akabah has the name of a "little hell." Moreover, they eat, drink, smoke, sleep, chat, quarrel, and never take exercise: the officers complained sadly

* Commonly written Kansúh (Kansooh) and corrupted by Europeans to Campson (like Sampson) Goree.

that I had made them walk perhaps a mile round the bay-head. And yet they have, within two days of sharp ride, that finest of sanitaria, the Hismá, which extends as far north and south as they please to go.

I at once made arrangements for a dromedary-post to Suez, and wrote officially to Prince Husayn Pasha, requesting that his Highness would exchange the *Mukhbir* for a steamer less likely to drown herself. Moreover, the delay at Magháir Shu'ayb had exhausted our resources; and the Expedition required a month's additional rations for men and mules. The application was, it will appear, granted in the most gracious manner, with as little delay as possible; and my wife, who had reached Cairo, saw that the execution of the order was not put off till the end of March. Messrs. Voltéra Brothers were also requested to forward another instalment of necessaries and comforts; and they were as punctual and satisfactory as before. For this postal service, and by way of propitiatory present, Shaykh Mohammed received ten dollars, of which probably two were disbursed. We therefore parted fast friends, he giving me an especial invitation to his home in the Hismá, and I accepting it with the firm intention of visiting him as soon as possible.

Meanwhile Mr. Clarke and Ali Marie were busy with buying up such stores as El-'Akabah contains; and the officers of the fort, who stayed

with us to the last, were profuse in kind expressions and in little gifts which, as usual, cost us double their worth. In these lands one must expect to be "done" as surely as in Italy. What the process will be, no one knows till it discloses itself; but all experts feel that it is in preparation.

NOTE ON THE SUPPLIES TO BE BOUGHT AT EL-'AKABAH.

The following is a list of the stores with their prices. It must be borne in mind that the Hajj-caravan was passing at the time we visited El-'Akabah.

A large sheep cost half a napoleon; the same was the price of a small sheep, with a kid.

Fowls (seventy-one bought), thirteen pence each; pigeons, sixpence a head.

Eggs (sixty), two for threepence.

Tobacco (8 lbs.), coarse and uncut, but welcome to the Bedawin, one shilling per pound.

Samn ("liquefied butter" for the kitchen) also one shilling per pound. This article is always dear in Arabia, but much cheaper than in Egypt.

Pomegranates (fifty), four shillings a hundred.

Onions (one kantár or cwt.), one sovereign.

Thin-skinned Syrian raisins, fivepence per pound.

Dried figs, twopence halfpenny per pound.

Matches (sixteen boxes), three halfpence per box.

A small quantity of grain may be bought. Lentils (*Revalenta Arabica*) are to be had in any quantity, and they make an admirable travelling soup. Unfortunately it is supposed to be a food for Fellahs, and the cook shirks it—the same is the case with junk, salt pork, and pease-pudding on board an English cruiser. Sour limes are not yet in season; they will be plentiful in April. A little garden stuff may be had for salads. The list of deficiencies is great; including bread and beef, potatoes, 'Ráki, and all forms of "diffusable stimulants."

Here, as at Cairo, the piastre is of two kinds, metallic (debased silver) and non-metallic. Government pays in the former, which is called *Ságh* ("coin"); and the same is the term throughout Egypt. The value fluctuates, but 97½ may be assumed = one sovereign (English), and one hundred to the Egyptian "lira." The second kind, used for small purchases, is not quite half the value of the former (205 : 100); in North-Western Arabia it is called *Abyaz* ("white"), and *Tarífá* ("tariff"); the latter term in Cairo always signifying the *Ságh* or metallic. The dodges of the Shroffs, or "money-changers," make housekeeping throughout Egypt a study of arithmetic. They cannot change the value of gold, but they "rush" the silver as they please; and thus the "dollar-sinko" (*i.e.* the five-franc piece), formerly fetching 19·10, has been reduced to 18·30. The Khurdah, or "copper-piastre," was once worth a piastre; now this "coin of the realm" has been so debased, that it has gradually declined through 195 to 500 and even 650 for the sovereign. Moreover, not being a legal tender, it is almost useless in the market.

As regards the money to be carried by such expeditions, anything current in Egypt will do. The Bedawin prefer sovereigns when offered five-franc pieces, and *vice versâ*. The Egyptian sovereign of 100 piastres (metallic) or 250 "current" must not be confounded with the Turkish = 87·30 (curr. 175·20 to 180). The napoleon averages 77·6 (curr. 160); the dollar varies according to its kind; the shilling is 3·35 (curr. 10), and the franc 3·35 (curr. 8). It is necessary to lay in a large quantity of small change by way of "bakhshísh," such as ten and twenty parah bits (40 = 1 piastre).

CHAPTER VIII.

CRUISE FROM EL-'AKABAH TO EL-MUWAYLAH — THE SHIPWRECK ESCAPED — RÉSUMÉ OF THE NORTHERN JOURNEY.

I RESOLVED upon hastening back with all speed to El-Muwaylah, finishing, by the way, our work of quartz-prospecting on the 'Akabah Gulf. Thus far it had been a success; we heard of "Marú" in all directions. But all had not gone equally well. We had already on two occasions been prevented by circumstances from visiting the mysterious Hismá, and we now determined to devote all our energies to its exploration.

Two heavy showers having fallen during the dark hours, on February 8th Aurora looked as if she had passed a very bad night indeed. The mist-rack trailed along the rock slopes, and rested upon the Wady-sands; the mountains veiled their heads in clouds, and—

"Above them lightnings to and fro ran coursing evermore,
Till, like a red, bewildered map, the skies were scribbled o'er."

Meanwhile, in the north-west and south-west we saw—rare thing in Arabia!—Iris holding two perfect bows at the same time, not to speak of "wind-dogs." Zephyrus, the wester, here a noted bad character, rose from his rocky couch strong and rough, beating down the mercury to 56° F.: after an hour he made way for Eurus; and the latter was presently greeted by Boreas in one of his most boisterous and blustering moods.

We steamed off, with only a single stoppage for half an hour to cool the engine-bearings, at 7.30 a.m.; and, after one mile we passed, on the Arabian side, a ruin called *Kasr el-Bint*—"the Girl's Palace." Beyond it lies the Kasr el-Bedawi, *alias* El-Burayj ("of the Little Tower or Bastion"), the traditional holding-pier of the great chain. When Wellsted (ii. 146) says, "Here (*i.e.* at the Kasr el-Bedawi), I am told, there is a chain extending from the shore to a pier built in the sea"—he evidently misunderstood the Arabs. The eastern coast of El-'Akabah begins with an abrupt mountain-wall, like that which subtends the whole of the Sinai shore, till it trends south of the Mínat el-Dahab. After three miles the heights fall into a stony, sandy plain, which rises regularly as a "rake," or stage-slope, to the Sharà' (Seir) range, which closes the horizon. After two hours and forty-five minutes we passed into the fine, open, treacherous Bay of "Hagul" (*El-Hakl*), distant thirteen knots

from El-'Akabah Fort, to which it is the nearest caravan-station. On the north-east, and stretching eastward, are the high "horse," or dorsum, and the big buttresses of the long, broad Wady, which comes winding from the south-east. They appear to be a body of sand; but, as usual on this coast, the superficial sheet, the skin, hardly covers the syenite and porphyritic trap that form the *charpente*. Between west and south, a long spit, high inland, and falling low till where its sandstone blufflet meets the sea, proves to be the base of a large and formidable reef, which extends in verdigris patches over the blue waters of the bay. It is not mentioned by Wellsted (ii. 149), who describes "Ha'gool on the Arabian shore," as "a small boat-harbour much exposed to the northerly winds." The embouchure of the Wady nourishes four distinct clumps of date-trees, well walled round; a few charred and burnt, the most of them green and luxuriant. These lines are broken by the channels which drain the surface-water; and between the two western sections appear the ragged frond-huts. Not a soul was seen on shore.

The wind blew great guns outside the bay, and the inside proved anything but calm. As the water was fifty-eight fathoms deep near the coast, our captain found no moorings for his ship, except to the dangerous reef; and we kept drifting about in

a way which would have distracted sensitive nerves. I had been told of ruins and tumuli at El-Hakl, which denote, according to most authorities, the Mesogeian town Ἀγκάλη (Ancale): Ptolemy (vi. 7, 27) places this *oppidum Mediterraneum* between Mákna or Maína (Madyan), and Madiáma (Magháir Shu'ayb), the old capital.

Unwilling, however, to risk the safety of the gunboat, where nothing was to be expected beyond what we had seen at El-'Akabah, I resolved, after waiting half an hour, not to land. The Sambúk received a cargo of quarrymen and sacks, in order to ship at Makná the "argentiferous galena" and other rocks left by Lieutenant Yusuf and M. Philipin upon the shore; and, that done, she was directed to rejoin us at Tírán Island. As long as the norther coursed high, she beat us hollow; in the afternoon, however, when the gale, as usual, abated, she fell off, perhaps purposely, not wishing to pass a night in the open. By sunset her white sail had clean disappeared, having slipped into some snug cove.

The Arabian shore is here of simpler construction than that of Sinai; consequently the chart has had a better chance. The *Mukhbir* resumed her way southwards in glorious weather, a fresh breath blowing from the north; and fleecy clouds variegating the sky, which was almost as blue as the

waves. After six miles and a half from El-Hakl and nearly twenty from El-Akabah, she ran to the west of El-Humayzah Island, the "Omasír" of Wellsted (ii. 149), between which and the mainland is a well-sheltered berth. It is a great contrast with the "Hill of the Fort," the Pharaohnic rock, this lump some eighty feet high, built of Secondary gypsum and yellow serpentine like the coast behind it. Gleaming deadly white, pale as a corpse in the gorgeous sunshine, and utterly bare, except for a single shrub, it is based upon a broad, dark-coloured barrier-reef. Local tradition here places the *Kasr el-Bedawíyyah*, "Palace of the Bedawi Woman (or Girl)," but we saw neither sign of building nor trace of population in the second island which the Gulf el-'Akabah owns.

We then passed sundry uninteresting features, and night fell upon us off Jebel Tayyib Ism, where familiar scenes began to present themselves. The captain had already reduced speed from four and a half to three knots, his object being to reach the *Bugház* or "Gulf-mouth" after dawn. But as midnight drew near it became necessary to ride out the furious gale with the gunboat's head turned northwards. M. Lacaze, a stout-hearted little man, worked half the night at the engine, assisting Mr. Duguid. About four a.m. (February 9th) a lull in the storm allowed her to resume her southerly course; but

two hours afterwards, an attempt to make the Makná shore, placing her broadside on to the wind, created much confusion in the crockery and commotion among the men. Always a lively craft, she now showed a Vokes-like agility; for, as is ever the case, she had no ballast, and who would take the trouble to ship a few tons of sand? At such moments the engine was our sole stand-by: had it played one of its usual tricks, the *Mukhbir*, humanly speaking, was lost; that is, she would have been swamped and water-logged. As for setting sail, it was not till our narrow escape that I could get the canvas out of stowage in the hold.

As the morning wore on the Gulf became even rougher, with its deep and hollow waves; they seemed to come from below, as if bent upon hoisting us in the air. The surface-water shivered; and the upper spray was swept off by the north wind, which waxed colder and more biting as we steered sunwards. The Sinaitic side now showed its long slopes; and at 9.45 a.m. we passed the palms of the Nebíkí anchorage, some six miles from the "Gate." On the shore of Midian, south of the dark Fahísát Mountains, four several buttresses of gypsum, decreasing in size as they followed one another eastwards, trended diagonally away from the sea. This part of the Arabian coast ends in a thin point: the maps call it "Ras Fartak;" and the pilots "Shaykh

Hamíd,"* from a holy man's tomb to which pious visitation is made. The other land-tongue, adjoining to the south, is known as the Umm Ruús, or "Mother of Heads." I cannot find out whence Rüppell borrowed his "Omel Hassanie" (Umm el-Hassání?).

As we approached the ugly gape of the formidable Gulf, the waves increased in size, and coursed to all directions, as if distorted by the sunken reefs. The eastern jamb is formed by Tírán Island; the western by the sandy Ras Nasráni, whose glaring tawny slope is dotted with dark basaltic cones, detached and disposed like great ninepins. Beyond this cape the Sinaitic coast, as far as Ras Mohammed, the apex of the triangle, is fretted with little indentations; hence its name, *El-Shurúm*—"the Creeks." Near one of these baylets, Wellsted chanced upon "volcanic rocks which are not found in any other part of the peninsula:" this sporadic outbreak gives credibility to the little "Harrah" reported to be found upon the bank of the Midianitish "Wady Sukk." A hideous, horrid reef, dirty brown and muddy green, with white horses madly charging the black *diabolitos*, whose ugly heads form *chevaux de frise*, a stony tongue based upon Tírán Island, and apparently connected from the eastern coast behind, extends its tip to mid-channel. The clear way of the dreaded *Bugház* is easily found in the daytime:

* Not Hámid, as some mispronounce the word.

at night it would be almost impossible; and when Midian shall be "rehabilitated," this reef will require a Pharos.

Adieu, small spitfire of a Gulf! The change from the inside to the outside of the Birkat el-'Akabah was magical. We at once glided into summer seas, a mosaic of turquoise and amethyst, fanned by the softest of breezes, the thermometer showing on deck 63° F. Perhaps the natural joy at our lucky escape from "making a hole in the water" caused the beauties of the weather and the glories of the scenery to appear doubly charming. Our captain might have saved fifteen miles by taking the short cut north of Tírán Island, under whose shelter we required a day for boiler-tinkering. His pilot, however, would not risk it, and we were compelled, nothing loth and little knowing what we did, to round for a second time the western and southern shores.

The "Hill of Birds," which some have identified with the classical Island of Isis,* shows a triune profile, what the Brazilians call a *Moela* or "gizzard." Of its three peaks the lowest is the eastern; and the central is the highest, reaching seven hundred, not a thousand, feet. Viewed from within the Gulf, it is a slope of sand which has been blown in sheets up the backing hills. The ground plan, as seen

* "The Gold-Mines of Midian," Chap. XII.

from a balloon, would represent a round head to the north, a thin neck, and a body rudely triangular, the whole measuring a maximum of five miles in length: the sandy northern circlet, connected by the narrowest of isthmuses, sweeping eastward, forms the noted port. The material is the normal Secondary formation, sulphates and carbonates of lime supporting modern corallines and conglomerates of shell. Horizontal lines of harder stone are disposed in huge steps or roads that number three to six on the flank of the western peak: the manganese-coloured strata which appeared at Magháir Shu'ayb, and in the rent bowels of the *Rughámat Makná*, are conspicuous from the south. The whole has been upheaved by syenite, which, again, has been cut by dykes of plutonic stone, trap and porphyry.

At two p.m. we anchored in a roadstead to the south-east of the island, open to every wind except the norther. I had sent Lieutenant Amir and sundry quarrymen ashore, to inspect what looked like a vein of sulphur. They delayed two hours, instead of a few minutes; the boiler was grumbling for rest, and, not wishing to leave them adrift in an open boat, I imprudently consented to await them in a roadstead where the coast was dangerous, instead of proceeding, as had been intended, to the fine land-locked port, nature-hollowed in the eastern side of the island. The old captain pitifully represented to

me that his crew could not row ; and this I found to be generally the case : ten miles with the oar would be considered a terrible *corvée* by the Egyptian man-o'-war's man.

After blowing off steam, we at once went a-fishing. The only remarkable result was the discovery that this corner of the Red Sea is a breeding-ground for sharks : we had not seen one in the Gulf of El-'Akabah, where last April they swarmed. Here, however, the school contained all sizes and every age, and they regarded us curiously with their cat's eyes, large, dark, and yellow-striped down the middle. A small specimen, that had just cut its teeth, was handed over to the cook, despite his loudly expressed disgust. The meat was somewhat mealy and short-fibred ; but we pronounced in committee the sea-dog to be thoroughly eatable when corrected by pepper, garlic, and Worcester sauce. The corallines near the shore were finely developed : each bunch, like a tropical tree, formed a small zoological museum; and they supplied a variety of animalculæ, including a tiny shrimp. The evening saw a well-defined halo encircling the moon at a considerable distance ; and Mr. Duguid quoted the Scotch saw—

"A far-awa' bruch's a near-awa' blast."

The blast was nearer than we expected ; and, during the rest of the journey, the "bruch" rarely if ever deceived us. Yet the night was not much

disturbed by the furious northerly gusts, showing that the storm which we had escaped was raging in the still-vexed 'Akabah.

Next morning we landed to the south-west of Tírán's easternmost peak, with a view of prospecting and adding to our collections. On the shore, about three hundred feet from the sea, is a bank of dead shells which are not found on the northern or sandy end of the island: near the water most of them are tenanted by *paguri* ("hermits"). We caught a number of crabs and small fish, and we carried off a single rock-oyster: as yet we had not found out that the *Ustrída*—the vulgar form of the Hellenic and classical "Istiridiyá"—abounds in these seas. After thirty minutes' walk up the southern plane of the prism, composed of gypseous and coralline rocks, veins of white petrosilex resembling broken columels, streaks of magnetic black sand, and scatters of grit and harder stones, we reached the summit of the little ridge. It afforded a fine bird's-eye view of the splendid middle port; of the false harbour; of the real shoal to its south-east, and of the basin which seems to form Sináfir Island.

We now bent to the south-west. Here the surface is much cut and broken by sandy Wadys, dotted with a few straggling plants: to our right was a *Goz* or inclined arenaceous bank, where the south wind had sifted the sand from the gravel, disposing the

former in the hollows, and the latter on the crest of the ripples. Presently we reached a strange formation which, seen from the east, appears a huge vein, red and rusty, beginning close to the sea, and crossing the body of the island from south to north, while a black cone is so disposed that its southern front simulates a crater. A narrow gorge opens upon a semicircular hollow lined with ochraceous or ferruginous matter; in fact, part of the *filon*, which sends off fibrils in all directions. The confusion of formations was startling. The floor was here of white petrosilex, there of grey granite, variegated with squares and lozenges, drops and pineapples, red, green, neutral tinted, and disposed by oxides of iron and copper in natural designs that looked artificial. Scattered over the bed of the upper ravine beyond the hollow, were carbonates of lime, ruddy brown and chocolate-hued, here a pudding-stone, there porous like basalt: the calcareous sulphates were both amorphous and crystalline, the latter affected by contact with plutonic matter. The walls of the gash showed a medley of clay *breccias*, disposed in every imaginable way; and divided by horizontal veins of heat-altered quartz. A few paces further led to the head of the ravine, where a tumble of huge rocks, choking the bed, showed that the rain-torrents must at times be violent.

Meanwhile, Mr. Clarke and Lieutenant Amir

had walked to the large central harbour, hoping there to hit upon sweet water and some stray Hutaym fishermen, who would show us what we wanted. They did not find even the vestige of a hut. The two exploring parties saw only three birds in the "Isle of Birds," and not one of the venomous snakes mentioned at "Tehran" by Wellsted (II. ix.), and described as "measuring about thirty inches, of a slender form, with black and white spots." We also utterly failed to discover the sulphur which was once abundant and the naphtha which, according to the same authority, was produced here in considerable quantities, and was used "by the Arab mariners to *pay* their boats."

The evening was exceptionally fine and calm; and we expected on the morrow (February 11th) a quiet return to El-Muwaylah. Yet a manner of presentiment induced me to summon the engineer and his native assistants, and to promise the latter a liberal "bakhshísh," if by hard work at the boiler all night, and by rigging up the ship's pump instead of a donkey-engine, they could steam off at dawn.

Unexpectedly, about four a.m., a violent sandy and misty wester began to blow; and all fancied that we had set sail to the south. Quite the contrary! The engine was still under repair. The *Mukhbir* was being tossed and rolled by the inshore

set, and the sequel is quickest told by an extract from my "Penny":—

"Written in sight of Death. Wind roaring furiously for victims: waves worse. No chain can stand these sledge-hammer shocks. Chain parts,* and best sheet-anchor with it. Bower and kedge anchors thrown out and drag. Fast stranding broadside on: sharp coralline reef to leeward, distant 150 yards. Sharks! Packed up necessaries. Sambúk has bolted, and quite right too! Engine starts some ten minutes before the bump. Engineer admirably cool; never left his post for a moment, even to look at the sea. Giorgi (cook) skinning a sheep: he has been wrecked four times, and don't care. Deck-pump acting poorly. Off in very nick of time, 9.15 a.m. General joy, damped by broadside turned to huge billows. Lashed down boxes of specimens on deck, and wore round safely. Made for Sináfir, followed by waves threatening to poop us. Howling wind tears mist to shreds. Second danger worse than first. Run into green water: fangs of naked rock on both sides within biscuit-throw; stumps show when the waves yawn. Nice position for a band-box of old iron! With much difficulty slipped into blue water. Rounded south end of spit, and turned north into glorious Sináfir Bay. Safe anchorage in eight fathoms. Anchor down at 10.15 a.m., after one hour of cold sweat. Distance seven miles on chart, nine by course: *Mukhbir* never went so fast; blown like chaff before wind. Faces cleared up. All-round shaking of hands; 'El-Hamdu li'lláhi,' followed by a drink. Some wept for joy."

The engine, or rather the engineer, had saved

* The chain did *not* part. The anchor was afterwards fished up by divers from El-Muwaylah, and its shank was found broken clean across like a carrot. Yet there was no sign of a flaw. Mr. Duguid calculated the transverse breaking strain of average anchor-iron ($8\frac{1}{2}$ inches $\times$ 4 = 22 square inches), at $83\frac{1}{10}$ tons; and the tensile breaking strain at 484 tons, or 22 tons to the square inch; while the stud-length cable of $1\frac{1}{8}$ inch chain, 150 fathoms long, would carry, if proof, 24 tons. Captain Mohammed was persevering enough, after the divers had failed, to recover his chain when on his cruise homewards; and the Rais of the Sambúk was equally lucky.

us: as the saying is, it was touch and go—the nearest thing I ever did see. Had the rotten old boiler struck work for five minutes when we were clearing out of Tírán, or steaming along Sináfir shore, nothing could have kept the ship afloat. Those who behaved best, a fireman, a boy who crept into the combustion-chamber to clear it, and helmsman who, having been at Liverpool, spoke a little English, were duly "bakhshísh'd. The same reward was given by mistake to the boiler-maker, Mohammed Sa'íd Haddád, who had malingered, instead of working, through the night. At Suez he had the impudence to ask me for a Shaḥádah ("testimony") to his good character. On the whole the conduct of the crew was worthy of all praise.

In a decently equipped English steamer we should have laughed at this storm, and whistled for more wind; but the condition of the *Mukhbir* quite changed the case. The masts might have rolled out, or she might have sprung a leak at any moment. And supposing that we had escaped the crash upon the reef, the huge waves, and the schools of sharks, our situation would have been anything but pleasant. The Island of Tírán, as has been shown, is a grisly scrap of desert: it has no sweet water; and its three birds would not long have satisfied thirty hungry men. It is far from the

mainland; the storm, which lasted through two days, was too violent for raft or boat to live, and at so early a season native craft are never seen on these seas. Briefly, a week might have elapsed before our friends at El-Muwaylah, who were startled by the wildness of the wind, could have learned our plight, or could have taken measures to relieve the castaways.

Sináfir Island, which we have to thank for giving us hospitality on two occasions, consists mainly of a bay. Viewed by the *norma verticalis*, it is shaped like an ugly duckling, with an oval (Wellsted says a circular) body of high ground disposed north-east to south-west; and with head and neck drooping westward so as to form a mighty pier or breakwater. The watery plain within is out of all proportion to the amount of *terra firma*. The body-profile shows straight-backed heaps of gypsum, some two hundred feet high, which become quoin-shaped about the middle of the isle: these hillocks are connected by low strips of sand growing the usual vegetation, especially the pink *Statice pruinosa*.

Presently our Sambúk, which had also lost chain and anchor before she could run out of the storm, appeared to the north-west of the bay; and a pilgrim-craft, bound for Suez, was our companion in good fortune. A party landed to examine Sináfir,

which still shows signs of a junction with Tírán. In days when the Secondary formation was an unbroken street, the whole segment of a circle, extending from Sharm Yáhárr to northern Sinai, must have been dry land; these reefs and islands are now the only remnants. The islet itself seems lately to have been two: the neck and head are one, and the body is another; an evident sea-cliff marks the junction, and what appears like a Wady below it, is the upraised sea-bed of coralline. To the north-west, and outside this strip, lies the little port defended by a network of reefs, in which our Sambúk had first taken refuge. The bay-shore bears traces of more than one wreck; and in the graveyard used by the native sailor, an open awning of flotsam and jetsam looks from afar like a tumble-down log-hut. The number of reefs and shoals shown by stripes of vivid green water promised excellent fishing, and failed to keep its promise.

At length, after a third wasted day, we managed, despite a new hole in the old boiler, to steam out of hospitable Sináfir at 6.30 a.m. on the auspicious Wednesday, February 13. The appearance of the *Mukhbir* must have been *originale* enough: her canvas had been fished out of the hold, but in the place of a mainsail she had hoisted a topsail. We passed as close as possible to the islet-line of Secondary formation, beginning with Shu'shu', the

wedge bluff-faced to south: the *Palinurus* anchored here in a small bight on the north-east side, between two reefs, and narrowly escaped being wrecked by a northerly gale. At 10.45 a.m. we were alongside of Baráhkán, a double feature, lumpy and cliffy, connected by a low sandy isthmus: the eastern flank gives good shelter to native crafts. Lastly came Yubú', the compound quoin, the loftiest of the group, upwards of 350 feet high, with its low-lying neighbour Wálih. These islets have classical names, as I have before mentioned,* and appear once to have been inhabited: even at Yubú', the least likely of all, we heard from several authorities of a deep rock-cut well, covered with a stone which the Arabs could not raise.

And now we were able to cast an intelligent glance in review of the scenes made familiar by our first or northern march. The surpassing purity of the transparent atmosphere, especially at this season, causes the land to look as near at twenty as at ten miles; and thus both distances, showing the horizon with the utmost distinctness, appear equally close to the ship. Beginning towards El-'Akabah, the Jebel el-Zánah behind Magháir Shu'ayb, and its mighty neighbour, the Jebel el-Lauz, form the horizon of mountains which are not the least amongst the giants. Southwards appear the Jibál el-Tihámah,

* "The Gold-Mines of Midian," Ch. XII. p. 317.

the noble forms of the seaboard, the parallel chains noting the eastern boundary of Madyan (Proper); while behind them the Jibál el-Shafah, reduced to blue heads and fragments of purple wall, are evidently disposed on a far more distant plane.

As regards the Jibál el-Tihámah, I have registered *ad nauseam* the names of the eight several blocks into which, between El-Zahd north and El-Shárr south, the curtain, rising from a sea-horizon, seems to divide itself. Every one consulted gave me a new or a different term; and apparently seamen and landsmen have their separate nomenclature. Thus, the pilots call the Fás, Harb and Dibbagh blocks, Jibál el-Musaybah, Tiryam, and Dámah, after the Wadys and main valleys that drain them. The Bedawin, again, will name the whole block after the part most interesting to them: thus the tower-like formation characterizing Jebel Dibbagh was often called "Jebel el-Jimm," and even this, as will afterwards appear, was not quite exact.*

We fired a gun off El-Muwaylah, where our camp, ranged in long line, looked clean and natty. At five p.m. we were once more at home in our old quarters, the Sharm Yáhárr: the day's work had numbered fifty direct geographical miles between Sináfir and El-Muwaylah, with five more to our dock.

* See Chap. X.

RÉSUMÉ.

Our journey through Madyan Proper (North Midian) had lasted fifty-four days (December 19, 1877, to February 13, 1878). During nearly two months the Expedition had covered only 105 to 107 miles of ground: this, however, does not include the various by-trips made by the members, which would more than double the total; nor the cruise of two hundred miles round the Gulf of 'Akabah, ending at El-Muwaylah. The total of camels employed varied from 106 to 61, and their hire, including "bakhshísh" and all minor charges, amounted, according to Mr. Clarke, to £316 14*s.* 3*d.*

This section of North Midian may be described as essentially a mining country, which, strange to say of a province so near Egypt, has been little worked by the Ancients. The first Khedivial Expedition brought back specimens of free gold found in basalt, apparently eruptive, and in corundophyllite, which the engineer called greenstone porphyry: silver appeared in the red sands, in the chloritic quartz, and in the titaniferous iron of the Jebel el-Abayz; the value being 265 to 300 francs per ton, with traces in the scoriæ. The second Expedition failed to find gold, but brought back argentiferous galena in copper-stained quartz, and possibly in the ochraceous red veins seaming the Secondary gypsum;

with silicates and carbonates of copper: select specimens of the latter yielding the enormous proportion of forty per cent. In this northern region the great focus of metallic deposit appears to lie between north lat. 28° 40′ and 27° 50′; that is, from the Jebel Tayyib Ism, north of Makná, to the southern basin which contains the Jebel el-Abyaz or "White Mountain." Its characteristics are the argentiferous and cupriferous ores, whereas in South Midian gold and silver were worked; and the parallelogram whose limits are assigned above, might be converted into a Northern Grant. Concerning the immense abundance of gypsum, and the sulphur which is suspected to be diffused throughout the Secondary formation, ample details have been given in the preceding pages.

The principal ruins of ancient settlements, and the *ateliers*, all of them showing vestiges of metal-working, numbered eight: these are, beginning from the south, Tiryam, Sharmá, 'Aynúnah, the Jebel el-Abyaz, Magháir Shu'ayb, Makná, Tayyib Ism, and El-'Akabah. Magháir Shu'ayb, the Madiáma of Ptolemy, is evidently the ancient capital of the district. It was the only place which supplied Midianitish (Nabathæan) coins. Moreover, it yielded *graffiti* from the catacombs; fragments of bronze which it will be interesting to compare by assay with the metal of the European prehistoric age;

and, finally, stone implements, worked as well as rude.

I will end with a few words concerning the future industry of North Midian.

For the success of these mines the greatest economy will be necessary. The poorest ore can be treated on the spot by crushing and washing, where no expenditure of fuel is required. The richer stone, that wants roasting and smelting, would be shipped, when worth the while, from North Midian to Suez: there coal is abundant, and the deserted premises of Dussaud-Bey, belonging to the Egyptian Government, would form an excellent site for a great *usine centrale.* Finally, the richest specimens—especially those containing, as many do, a medley of metals—would be treated with the least expenditure, and the greatest advantage, at Swansea or in other parts of England, where there are large establishments which make such work their specialty.

The following analyses of the specimens brought home by the first Khedivial Expedition, were made at the Citadel, Cairo, by the well-known chemist, Gastinel-Bey, in conjunction with M. George Marie, the engineer attached to the Expedition :—

ANALYSES (MM. GASTINEL-BEY AND GEORGE MARIE OF CAIRO) OF ROCKS BROUGHT HOME BY THE FIRST KHEDIVIAL EXPEDITION.

(*All by Voie Sèche.*)

Gold (assay on 100 grammes)—

1. In basalt (lava ?).

2. In serpentine.

(None in white quartz.)

Silver—

1. In Filon Husayn, $\frac{1}{1000}$ = 265 to 300 francs per ton (very good).
2. In red sands, $\frac{1}{10.000}$ (= 20 francs per ton).
3. In scoriæ, traces.

(None in white quartz or in the black sands.)

Copper—

1. In 'Aynúnah quartz, 4½ per 100.
2. In Filon Husayn, 2½ to 3·40 per cent.

(Filon Husayn = Titaniferous iron, 86·50
Silica, 10·10
Copper, 3·40.

3. In chloritic slate, 1·40 per cent.

(Chloritic slate of Makná =
Silica, 90·50
Carbonate of lime, 5·60
Oxide of iron, 2·30
Copper, 1·40.)

Sulphur (Jebel el-Kibrít of El-Muwaylah)—

4 per cent. above.
9 ditto below.

Lead everywhere.

Calamine (zinc) very rich.

PART II.

THE MARCH THROUGH CENTRAL AND EASTERN MIDIAN.

CHAPTER IX.

WORK IN AND AROUND EL-MUWAYLAH.

We arrived at El-Muwaylah too late to meet the Hajj-caravan, which, home returning, had passed hurriedly through the station on February 9th. This institution has sadly fallen off from its high estate of a quarter of a century ago. Then commanded by an *Amir el-Hajj*—"Lord of the Pilgrimage"—in the shape of two Pashas (generals), it is now under the direction of a single Bey (colonel). The "True Believers," once numbering thousands, were reduced in 1877–78 to some eight hundred souls, of whom only eighty appeared at El-Muwaylah; and the peculiar modification of modern days is that the Mahmal is escorted only by paupers. Yet the actual number of the Hájis who stand upon Jebel 'Arafát, instead of diminishing, has greatly increased. The majority prefer voyaging to travelling; the rich hire state-cabins on board well-appointed "Infidel" steamers, and the poor content themselves with "Faithful" Sambúks. Indeed, it would seem that all

the present measures, quarantines of sixty days (!) and detention at wretched Tor, comfortless enough to make the healthiest lose health, are intended to discourage and deter "palmers" from proceeding by land. If this course be continued, a very few years will see the venerable institution represented by only the Mahmal and its guard. The late Sa'id Pasha of Egypt once consigned the memorial litter per steam-frigate to Jeddah: the innovation saved *Ghafr* ("blackmail") to the Bedawin; but it was not approved of by the Moslem world.

The Hájis were so poor that they had nothing for barter or for sale. Happily, however, there was a farrier amongst them, and Lieutenant Yusuf took care that our mules were properly shod. M. Philipin had been a *maréchal ferrant*, but a kick or two had left him no stomach for the craft. Our two fellow-travellers, with the whole camp, had set out from Makná on February 6th, and marched up the great Wady el-Kharaj. Along the eastern flank of the Jebel el-Fahísát, the "Iron Mountain," they found many outcrops of quartz, a rock which appears sporadically all the way to the northern *soufrière*. In two places it was green-stained, showing copper, while in another hydrated oxide and chromate of iron (hematite) * abounded. After a stage of four

* Lieutenant-Colonel Bolton kindly compared the specimens with those in his cabinet. The first, which was accompanied by

hours and twenty minutes they left the caravan, struck off to the west, accompanied by Shaykh Furayj, and reached their destination. Here, however, they met with accidents: the mules bolted, followed by the Shaykh's dromedary, and they were obliged to hurry off for fear of losing the caravan, now well ahead of them. Thus, when I had ordered Lieutenant Yusuf to make a detailed plan of the formation, he had spent exactly ten minutes on the spot, and he appeared not a little proud of his work.

This young officer was not a pleasant companion. He had doubtless received his orders, but he carried them out in a peculiarly disagreeable way, taking notes of all our proceedings under our eyes. Together with Lieutenant Amir, he began to make a collection of geology: both, being utterly innocent of all knowledge, imitated us in picking up specimens; mixed them together without notes or labels; and, on return to Cairo, duly presented them at the Citadel. This was all that was required. The papers were "written to" and reported as follows: "Closer examination has shown that the 'turquoises' brought to Cairo are merely malachite (!); and that the existence of any such quantity of gold as would

quartz, resembled the produce of Orenburg. A Peruvian mine-proprietor had pronounced it to be "Rosicler" silver. The magnetic sand bore a tantalizing resemblance to the highly auriferous black sand of Ekaterinburg.

pay for the working is, to say the least of it, very doubtful." *

The whole camp, indeed, was seized with a mania for collecting: old Háji Wali again gathered bits of quartz, which he once more presented as gold-stone to his friends and acquaintances at Zagázig; and Anton, the dragoman, triumphantly bore away fragments bristling with mica-slate, whose glitter he fondly conceived to be silver.

Lieutenant Yusuf was presently despatched with three soldiers, three quarrymen, Jází, the Arab guide of a former visit, and eight camels, to bring back specimens of the copper silicate to the south of 'Aynúnah, and to make a regular survey of the northern *solfatara*. He set out early on February 18th, and after twenty-one hours of caravan-marching reached the Jebel el-Fara'. Here the outcrop is bounded north by the Wady el-Fara', and south by the Wadys el-Maríkhah and Umm Nírán, the latter forming the general recipient of these Nullahs. The Jebel is about 120 feet high, of oval form, stretching 1750 mètres from north-north-west to south-south-east. The rich silicate (not carbonate) of copper, which disdains a streak and affects the file, is found, as usual with this ore, only in one part of the valley to the south-west, some thirty-five feet above the

* Correspondence of the *Sheffield Telegraph* (May 18), copied into the *Globe* of May 25, ete., etc., etc.

sole: it is a pocket, a "circumscribed deposit," as opposed to a "true vein" or a "vein-fissure." The adjoining rocks contain carbonates of iron and copper, and the ore-mass is apparently carbonate of lime. This second visit generally confirmed the report of Ahmed Kaptán, except that there were no signs of working, as he had supposed. The travellers passed the whole of February 20th at the diggings, made a plan, and sent back two camel-loads (four sacks) of the gangue, in charge of a soldier, to the Fort of El-Muwaylah.

On the next day the little party made for the Wady 'Aynúnah, and, striking to the left of the straight line, crossed the maritime country, here a mass of Wadys, including our old friend the 'Afál. This highway to the northern Hismá falls, I have said, into the Mínat el-'Ayánát, a portlet useful to Sambúks: its sickle-shaped natural breakwater, curving from west to south, resembles that of Sinaitic Marsá el-Ginái, and those which are so common in Western Iceland. On February 22nd, a very devious path, narrow and rocky, lasting for one hour, led them, about noon, to the northern Jebel el-Kibrít. The distance from El-Muwaylah is about sixty-six miles; and the country west of a line drawn from 'Aynúnah to Makná was, before this march, utterly unknown to us, consequently to all the civilized world.

Lieutenant Yusuf's two journals checking each other, his plan and his specimens enable me to describe the northern deposit with more or less accuracy. The Sulphur-hill is a long oval of four hundred mètres (east-west), by a maximum of one hundred and eighty (north-south); but it extends branches in all directions: the mineral was also found in a rounded *piton*, a knob on the Wady Musayr, attached to the north-eastern side. The flattened dome is from fifty to sixty feet high, and the *piton* one hundred and forty. The metal underlying a dark crust, some twelve to fifteen centimètres thick, appears in regular crystals and amorphous fragments of pure brimstone pitting the chalky sulphate of lime: blasting was not required; the soft material yielded readily to the pick. This gypseous or Secondary formation was found to extend, not only over the adjacent hills, but everywhere along the road to Makná. The important point which now remains to be determined is, I repeat, whether sulphur-veins can be found diffused throughout these non-plutonic rocks.

Lieutenant Yusuf fixed his position by climbing the adjacent hills, whence Sináfir bore 190°, and Shu'shu' 150° (both magnetic); while greater elevations to the west shut out the view of lofty Tírán, and even of the Sinaitic range. The nearest water in the Wady el-Nakhil to the north-east was

reported to be a two hours' march with loaded camels (= five miles). Several little ports, quite unknown to the Hydrographic Chart, were visited. These are, beginning from the north, the Mínat Hamdán, lying between Makná and Dabbah; a refuge for Sambúks defended, like that of old "Madyan," by rising ground to the north. About three miles and a quarter further south is the Sharm Dabbah, the "Sherm Dhaba, good anchorage" of the Chart: this mass of reefs and shoals may have been one of the "excellent harbours" mentioned by Procopius. It receives the Wady *Sha'b el-Gánn* (Jánn), "the Watercourse of the Demons' (Jánn) Ravine," flowing from a haunted hill of red stone, near which no Arab dares to sleep. From that point the travellers struck nine miles and a half to south-east of Ghubbat Suwayhil: this roadstead, used only by native craft, lies eastward of the long point forming the Arabian staple of the Gulf el-'Akabah's gate, where the coast-line of Midian bends at a right angle towards the rising sun. Adjoining it to the east, and separated by a long thin spit, is the Ghubbat el-Wagab (*Wajb*), the mouth of the watercourse similarly named: it is also known to the Katírah or "smaller vessel," and about a mile up its bed, which comes from the north-east, there is a well. According to Jázi, the guide, this *Ghubbah* ("gulf"), distant only four to five hours of slow

marching from the Sulphur-hill, will be the properest place for shipping produce. In another eastern feature, the Wady Giyál (*Jiyál*), distant some eleven miles and a half from 'Aynúnah and ending in a kind of sink, there is a fine growth of palms, about a quarter of a mile long, and a supply of "wild" (brackish) water in wells and rain-pools. These uninteresting details will become valuable when the sulphur-mines of North Midian are ripe for working.

From the Ghubbat el-Wagab, the path, easy travelling over flat ground, strikes to the north-east; and, fourteen miles and a half beyond, joins the 'Aynúnah highway. On February 26th, at the end of nine days' work, Lieutenant Yusuf returned to El-Muwaylah with two sacks of sulphur-bearing chalk which justified his previous report. As will appear, the Expedition was still travelling through the interior: after a halt for rest at head-quarters, he rejoined us on our northward route from Zibá, and I again found useful occupation for his energies.

Upon our happy return "home," *i.e.* Sharm Yáhárr, preparations for a march upon the Hismá were at once begun. My heart was firmly fixed upon this project, hoping to find an "unworked California" to the east of the Harrah volcanoes; but the Shaykhs and camel-men, who did not like the prospect of a rough reception by the Ma'ázah

bandits, threw sundry small stumbling-blocks in our path. It was evidently useless to notice them so far from the spot; they would develop themselves only too well as we approached the tribal frontier. While these obstacles were being cleared away, we carefully examined the little dock that had so often given us shelter in the hour of need; and I set a small party to work at the central Jebel el-Kibrít, which had been explored by the first Expedition.

Sharm Yáhárr is the usual distorted T, a long channel heading in a shorter cross-piece: it is formed by the confluence of four valleys, all composed of corallines and conglomerates of new sandstone. Those to the north and the north-west show distinct signs of upheaval; the two eastern features, known as the *Wady el-Hárr* ("the Hot Watercourse"), of which *Yáhárr* appears to be a corruption, bear marks of man's hand. The dock is divided into an outer and inner "port" by a projecting northern point which is not sufficiently marked in the Chart (enlarged plan). At this place, where the tide rises a full mètre, the crew of the *Mukhbir* had built a jetty of rough boulders, by way of *passe-temps* and to prevent wading. Native craft lie inside, opposite the ruins of a stone house: the existence of a former population is shown by the many graves on the upper plateau. In the northern Wady el-Hárr, also, we picked up specimens

of obsidian, oligistic iron, and admirably treated modern (?) slags showing copper and iron ; evidently some Gypsy-like *atelier* must once have worked upon the Wady Yáhárr. The obsidian also has apparently been subjected to the artificial fire ; and a splinter of it contains a *paillette* of free copper.

What concerned us most, however, was the discovery of oysters, which, adhering to the reefs projected under water from the rocky northern cliff, formed a live conglomerate ; and from the present time forwards we found the succulent molluscs in almost every bay. Those to the south, where the shallows overlie sand and mud, are not so good. At this season the *Ustrída* is flat, fleshy, and full-sized ; the shell has a purple border, and the hinge-muscle of the savage, far stronger than that of the civilized animal, together with its exceeding irregularity of shape, giving no purchase to the knife, makes oyster-opening a sore trouble. We tried fire, but the thick-skinned things resisted it for a long time ; and, when they did gape, the liquor had disappeared, thereby spoiling the flavour. The "beard" was neither black, like that of the Irish, nor colourless, as in the English oyster. The Bedawin, who ignore the delicacy, could not answer any questions about the "spatting season"—probably it is earlier than ours, which extends through June ; whether also a close time is required, as in England to

August 4th, we could not guess. The young probably find a natural "culch" in the many shells, cockle and others, that strew the rock, sand, and clay.

Knowing that my gallant friend, Admiral McKillop (Pasha) of Alexandria, takes great interest in "ostreoculture," I sent him from Suez a barrel of the best Midianites. The water had escaped by the carelessness of the magazine-man: enough, however, remained alive to be thrown into the harbour Eunostos, where they will, I hope, become the parents of a fine large progeny of "natives." Similarly we had laid in a store of forty-two *langoustes* (crayfish) for presentation at Court, and to gladden the hearts of Cairéne friends: our Greeks placed the tubs in the sun and so close to the funnel, that, after about three hours, all the fine collection perished ignobly.

We will now proceed to the central Jebel el-Kibrít; a superficial examination of which by the first Expedition* proved that the upper rock yielded four, and the lower nine, per cent. of tolerably pure brimstone. The shortest cut from the dock-harbour lies up the southern Wady Hárr, with its strangely weathered sandstone rocks, soft modern grits that look worm-eaten. Amongst them is a ledge-like block with undermined base projecting from the left bank: both the upper and the lower parts are scat-

* "The Gold-Mines of Midian," Chap. XI. It was then visited from its creek, Sharm Jibbah.

tered over with *Wasm*, or Arab tribal marks. On our return from El-Wijh we found this sandstone tongue broken in two: the massive root remained *in situ*, but the terminal half had fallen on the ground. This was probably the work of an earthquake which we felt at Sharm Dumayghah on March 22nd.* The track then strikes the modern Hajj-road, which runs west of and close to the Sulphur-hill; the line is a succession of water-courses,† and in Wady Khirgah we found blocks of the hydrous silicate, corundophyllite which may be Serpentine: it is composed of a multitude of elements, especially pyrites. After an hour and a quarter's sharp walking, we hit the broad Wady el-Kibrít, which rounds its Jebel to the south-east, and which feeds the Wady el-Jibbah, itself a feeder of the Sharm Jibbah. The latter, which gave us shelter in the corvette *Sinnár* (Captain Ali Bey), is a long blue line of water bounding the western base of the Sulphur-hill.

This central *Tuwayyil el-Kibrít* is an isolated knob, rising abruptly from Wady-ground; measuring some 240 feet in height, and about 880 mètres in diameter, not including its tail of four vertebræ

* Chap. XIV.

† A water-rolled fragment of this rock is called *Korundogeschieb* by Dr. L. Karl Moser, Professor of Natural History at the Gymnasium of Trieste, who kindly examined my little private collection of "show things."

which sets off from north-west to south-east. Viewed from the north it is, as the Egyptian officers remarked, a regular *Haram* ("pyramid"), with a kidney-formed capping of precipitous rock. Drinkable water, like that of the Wady el-Ghál, is said to be found in the Wady el-Kibrít to the north-east; and the country is everywhere tolerably wooded. The Bedawin brought us small specimens of rock-crystal and fragments of *Negro*-quartz, apparently rich in metal, from a neighbouring "Maru." They placed it amongst the hill-masses to the east and south; and we afterwards found it for ourselves.*

Our middle Sulphur-hill differs essentially from the other two deposits, the northern near Makná, and the southern near El-Wijh, in being plutonic and not sedimentary. One would almost say that it smokes, and the heat-altered condition of the granite, the greenstone, and other rocks, looking as if fresh from a fire, suggests that it may be one of the igneous veins, thrown westward by the great volcanic region, El-Harrah. In parts it is a conglomerate, where a quantity of quartz takes the place of chalk and gypsum. Other deposits are iron-stained and have the appearance of the decomposed iron pyrites which abounds in this neighbourhood. Usually the yield is the normal brimstone-yellow, yet some of the beds are deep red, as if coloured by

* Chap. XII.

ochre or oxide of iron : this variety is very common in the *solfataras* of Iceland ; and I have heard of it in the Jebel Mokattam, near Cairo. The colour is probably due to molecular changes, and possibly shows greater age than the yellow.

M. Philipin was directed to take charge of Sergeant Mabrúk, the nine quarrymen, and the Bedawi owners of two camels to carry his boring-irons, forge, and water from El-Muwaylah. I advised him to dig at least forty feet down all round the pyramid, wherever surface-indications attracted notice : old experience had taught me that such depth is necessary before one can expect to find brimstone-beds like those of Sicily. The borings brought up sulphur from fourteen mètres ; beyond these, six were pierced, but they yielded nothing. In and around the pyramid M. Philipin sank five pits ; the northernmost shaft, half-way up the hill, gave crystals of the purest sulphur.

If the depth of the deposit be not great, the surface extent is. The pyramid evidently forms the apex of a large vein which strikes north-south. The field consists of this cone with its dependencies, especially the yellow cliffs to the north and the south, facing, in the latter direction, a large plain cut by the Wady el-Kibrít. Moreover, a vein of the red variety, about three kilomètres long by twenty-five to thirty mètres broad, lies to the south-

east near a gypsum hill : the latter also yields the crystallized salt which so often accompanies sulphur, and heaps of gigantic half-fossilized oyster-shells are strewed about it.

M. Philipin here remained sixteen days (February 18—March 5), during our absence in the East Country; on return we found our good blacksmith much changed for the worse. Whilst in hard work he had been half-starved, the Jeráfín Bedawin of the neighbourhood having disappeared with their flocks; he had been terribly worried by the cameleers, and he had been at perpetual feud with the miserable quarrymen. I never saw a man less fitted to deal with (two-legged) "natives." The latter instinctively divined that he would rather work himself than force others to work; and they acted accordingly.

The Expedition was thus divided into four, three working parties and one of idlers. Anton and Petros were left behind to do nothing as magazine-men. Lieutenant Darwaysh (the linesman) who was too weak to ride, and Sub-Lieutenant Mohammed (the miner) who was too old to travel, had charge of the sick; both found the *far niente* equally sweet. On February 17th I again bade adieu to the gunboat *Mukhbir*, and marched with the largest party upon our camp at El-Muwaylah, distant about six miles (= one hour and forty-five minutes). The path

from Sharm Yáhárr crosses the hard sands of the maritime plain, metalled with the natural macadam of the Desert. The stone is mostly dark silex, the "hen's liver" of the Brazil, and its surface is kept finely polished, and free from "patina," by the friction of the dust-laden winds. The line is deeply gashed by short, broad gullies: the Hajj-road, running further east, heads these ugly Nullahs. The third and largest channel is Wady Surr, the great valley of El-Muwaylah, which may be regarded as the southern frontier of "Madyan" (Proper): we shall trace it to its head in the Hismá.

I had left the camp-pitching at El-Muwaylah to the Egyptian officers, who naturally chose the site nearest the two northern wells; a wave of ground hot by day, cold at night, windy and dusty at all times; moreover, the water was near enough to be horribly fouled. No wonder that in such a place many of the men fell ill, and that one subsequently died—our only loss during the four months' march.

On February 18th we proceeded, under the misguidance of a Básh-Buzúk of the fort, Ahmed Sálih el-Mal'ún, to inspect a neighbouring ruin called *Abú Hawáwít*—"the Father of (Dwelling-) Walls." Wallin (p. 30) declares that, "finding no mention made of Muweilih in Arab manuscripts, nor traces or traditions among the existing generation in the land, pointing to a high antiquity," he is inclined to con-

sider it a town of modern origin, in fact the growth of the Egyptian pilgrimage. His error is excusable. He was a passing traveller; and I well remember that for a whole year the true name of a hill immediately behind our house at Damascus remained unknown to me: we had called it after our own fashion, and the term had at once been adopted by all our over-polite native friends. Indeed, this is one of the serious difficulties to be encountered, throughout the East, by the scrupulous traveller whose greatest fear is that of misleading others. The Expedition had paid four several visits to El-Muwaylah, and had never heard a word about ruins, when I happened to read out before the Shaykhs assembled at Maghair Shu'ayb a passage from El-Makrízi treating of the destroyed cities of Madyan. They at once mentioned half a dozen names lying within short distances of the "little salt." Amongst them was *Abú Hawáwít*, literally meaning "tenement walls," but here applied, in the short form *Hawáwít*, to ruins in general.

Had "Wali Háji," as Wallin was called by the Bedawin, looked only ten feet beyond the north-eastern tower of the fort, near the ruins of a modern *Mastabah* ("masonry bench"), he would have found long-forgotten vestiges of ovens and slags containing copper and iron. The same will prove to be the case about the inland defence of El-Wijh; in fact, all

these works seem for obvious reasons to have been built upon sites that have been utilized long before their modern day. El-Muwaylah was probably a more important place than it is at present, when the reef-harbour, which now admits native craft only by a gap to the south-west, had not been choked by shoals. The sandy soil wants only water to produce a luxuriant perennial growth, and every garden can have its well. But more life is wanting; a man heaps up a thorn-hedge, or builds a swish-wall of the brick-clay underlying the Wady, and he forgets only to lay out the field within. Local history does not, it is true, extend beyond two hundred years or so, the probable date of Shaykh Abdullah's venerated sepulchre, a truncated parallelogram of cut coralline on the Wady Sughayyir to the north of the settlement. Yet this "little salt" is too remarkable a site to have remained unoccupied. Possibly it is the "Ἵππος Κώμη," the Horse Village (and fort ?), which Ptolemy (vi. 11) places in north lat. 26° 40′ (true 27° 40′), whilst his "Ἵππος Ὄρος" would be the glorious Shárr, correctly consigned to north lat. 27° 20′. This argues an error of nearly sixty miles by the geographer or his copyists. But Chapter XII. will attempt to show that the latitude of Σόακα, the modern Shuwák, is also one degree too low. So on the East African coast Ptolemy places his Aromata Promontorium, which can only be "Guardafui,"

between north lat. 5° and 7°, whereas it lies in north lat. 11° 41′ 4″.

The *Awwal Hawáwít*, or first ruins, begin on the right bank of the Surr after one mile and three-quarters from camp; and bear north-east (55° mag.) from the minaret of El-Muwaylah Fort. The position is a sandy basin, containing old Bedawi graves, bounded by a low ridge forming a boulder-clad buttress to the Wady, while the circuit of the two may be a mile and a half. A crumbling modern tower, crowning the right bank, and two *Mahrákah* ("rub-stones") were the principal remains. The situation must have been well chosen in the days when the heights were wooded, and the Wady was a river. We afterwards mapped the body of the place, lying about three miles from the fort, showing the Yubú' bank to north-west (298° mag.); and nearly due west (260° mag.) El-Muwaylah's only house, the Sayyid's. The site is a holm or island in the Wady Surr, which here runs east-west, and splits: the main line is the southern, and a small branch, a mere gully, occupies the northern bed-side.

The chief ruin is an oblong of twenty mètres by sixteen, the short ends facing 195° (mag.); the whole built of huge pebbles. The interior is composed of one large room to the north, with sundry smaller divisions to the south, east, and west. Defence was secured by a wall, distant 142 mètres, thrown

across the whole eastern part of the islet: outside it are three large pits, evidently the site of cisterns. The people also told us of a well, the *Bir el-Ashgham,* which has long been mysteriously hidden. Immense labour has also been expended in revetting the northern and southern banks, both of the islet and the smaller branch-bed, for many hundreds of yards with round and water-rolled boulders, even on a larger scale than at Magháir Shu'ayb. What all this work meant we were unable to divine. Perhaps it belonged to the days when the seaboard of Midian was agricultural; and it was intended as a protection against the two torrents, the Wadys el-Zila' and Abú Zabah, which here fall into the northern bank.

The 18th of February also made itself memorable to the second Expedition. M. Marie was strolling near the old furnaces to the north-east of the fort where, in 1877, he had picked up an auriferous specimen, unfortunately lost before it reached Cairo. Here he again found a fragment of serpentine, broken and water-rolled into the semblance of half a globe; it showed crust and stains of iron, *filets* of white quartz, and a curve (⁀) of bright yellow dots, disposed like the chainlet of an aneroid. Thereupon, we gravely debated whether these were the remains of a vein, or had been brought to the surface by the rubbing and polishing of the stone in water.

I could not but remark that the interior, which appeared pyritiferous, did not show the slightest trace of precious metal. Still the discovery gave fresh courage to all our people. The trophy was shown to every Bedawi, far and near, with the promise of a large reward (fifty dollars) to the lucky wight who could lead us to the rock *in situ*. The general voice declared that the "gold-stone" was the produce of Jebel Malayh (Malíh): we afterwards ascertained by marching up the Wady Surr that it was not. In fact, the whole neighbourhood was thoroughly well scoured; but the results were *nil*. In due course of time the tarnishing and the disappearance of the metal reduced my scepticism to a certainty: the "gold dots" were the trace of some pilgrim or soldier's copper-nailed boot. It was the first time that this ludicrous mistake arose, but not the last—our native friends were ever falling into the same trap.

Amongst the minor industries of the Fort el-Muwaylah must be reckoned selling gazelles. The Bedawin bring them in, and so succeed in taming the timid things that they will follow their owner like dogs, and amuse themselves with hopping upon his shoulders. When thus trained, "Ariel" is supposed to be worth half a napoleon. The wild ones may be bought at almost every fort, as Zibá or El-Wijh.

CHAPTER X.

THROUGH EAST MIDIAN TO THE HISMÁ.

THE Land of Midian is by no means one of the late Prince Metternich's "geographical expressions." The present tenants of the soil give a precise and practical definition of its limits. Their *Arz Madyan* extends from El-'Akabah north (north lat. 29° 28′) to El-Muwaylah with its Wady, El-Surr (north lat. 27° 40′). It has thus a total latitudinal length of 108 direct geographical miles.* South of this line, the seaboard of North-Western Arabia, as far as El-Hejaz, has no generic name. The Bedawin are contented with such vague terms, derived from some striking feature, as "the Lands of Zibá," "of Wady Salmá," "of Wady Dámah," "of El-Wijh," to denote the tract lying between the parallels of El-

* Let me at once protest against the assertions contained in an able review of "The Gold-Mines of Midian" (*Pall Mall Gazette*, June 7, 1878). The writer makes ancient Midian extend from the north of the Arabic Gulf (El-'Akabah?) and Arabia Felix (which? of the classics or of the moderns?) to the plains of Moab"—exactly where it assuredly does not now extend.

Muwaylah and of Wady Hamz (حمض) in north lat. 25° 55′ 15″. Thus the north-south length of the southern moiety would be 105 direct geographical miles, or a little less than the northern; and the grand total would be 213 miles.

The breadth of this Egyptian province is determined by the distance from the sea to the maritime mountains. In Madyan Proper, or North Midian, the extremes would be twenty-four and thirty-five miles. For the southern half these figures may be doubled. Here, again, the Bedawin are definitive as regards limits. All the Tihámah or "lowlands" and their ranges belong to Egypt; east of it the *Daulat Shám*, or Government of Syria, claims possession.

I have taken the liberty of calling the whole tract Midian; the section above El-Muwaylah (Madyan Proper) I would term "North Midian," and that below it "South Midian." In the days of the ancient Midianites the frontiers were so elastic that, at times, but never for a continuity, they embraced Sinai, and were pushed forward even into Central Palestine. Moreover, I would prolong the limits eastward as far as the Damascus-Medínah road. This would be politically and ethnologically correct. With the exception of the Ma'ázah country, the whole belongs to Egypt; and all the tribes, formerly Nabathæan, are now more or less Egypto-

Arab, never questioning the rights of his Highness the Viceroy, who garrisons the seaboard forts. Of the other points, historical and geographical, I am not so sure. My learned friend, Aloys Sprenger, remarks: "Let me observe that your extending the name 'Midian' over the whole country, as far south as the dominions of the Porte, appears to me an innovation by which the identity of the race along the shore of the Gulf of 'Akabah, and of the coast down to Wajh and Hawrá, is prejudged. Would it not be better to leave Midian where it always has been, and to consider Badá * the centre of Thamûditis, as it was at the time of Pliny and Ptolemy, and as it continued to be until the Balee (Baliyy), and other Qodhâ' (Kudá') tribes, came from Southern Arabia, and exterminated the Thamûdites?" This is, doubtless, a valid objection: its only weak point is that it goes too far back. We cannot be Conservatives in geography and ethnology; nor can we attach much importance, in the nineteenth century, to a race, the Beni Tamúd, which had wholly disappeared before the seventh. On the whole, it still appears to me that by adopting my innovation we gain more than we lose; but the question must be left for others to decide.

In our days, two great *Sultánis* or "highways" bound Madyan the Less and Midian the Greater.

* Described in Chap. XV.

The western, followed by the Hajj el-Misri (Egyptian caravan), dates from the age of Sultán Selim Khán the Conqueror; who, before making over the province to the later Mamlúk Beys, levelled rocks, cut through ridges, dug wells, laid out the track, and defended the line by forts. Before that time the road ran, for convenience of water, to the east or inland: it was, in fact, the old Nabathæan highway which, according to Strabo, connected Leukè Kóme with the western capital, Petra. Further east, and far beyond the double chain of maritime mountains, is the highway followed by the Hajj el-Shámi (Syrian or Damascus caravan), which sets out from Constantinople, musters at Damascus, and represents the Sultan. On both these main lines water is procurable at almost every station; and to them military expeditions are perforce limited. The parallelogram between the two, varying in breadth, according to Wallin, from 90 to 120 miles (direct and geographical), is irregularly supplied in places with springs, wells, and rain-pits, which can always be filled up or salted by the Bedawin.

The main body of the Expedition, Mr. Clarke, MM. Marie and Lacaze, Ahmed Kaptán, and Lieutenant Amir, set out from El-Muwayláh at 6.30 a.m. (February 19th), escorted by the Sayyid and the three salaried Shaykhs, including our friend Furayj. The Remingtons numbered ten, and there were also ten

picks, of whom five waited upon the mules; of the sixty-one camels six were dromedaries, and as the road grew lighter our beasts of burden increased, somehow or other, to sixty-four. The caravan now loads in twenty minutes instead of five hours; and when *politiké*, or fear of danger, does not delay us, we start in a quarter of an hour after the last bugle-sound. This operation is under charge of Lieutenant Amir, who does his best to introduce Dar-Forian discipline: the camels being first charged with the *Finátís* ("metal water-barrels"), then with the boxes, and lastly with the tents.

After passing the ruins of *Abú Hawáwít*, we began at 9.15 a.m. to exchange the broad Wady Surr of the flat seaboard, with its tall banks of stiff drab clay, for a gorge walled with old conglomerates, and threading the ruddy and dark-green foot-hills of the main Ghát. As in the Wady el-Maka'dah and other "winter-brooks," the red porphyritic trap, heat-altered argil, easily distinguished by its fracture from the syenites of the same hue, appeared to be iron-clad, coated with a thin crust of shiny black or brown peroxide (?). This peculiarity was noticed by Tuckey in the Congo, by Humboldt in the Orinoco, and by myself in the São Francisco river; I also saw it upon the sandstones of the wild mountains east of Jerusalem, where, as here, air and not water must affect the oxide of iron. In

both cases, however, the cause would be the same, and the polish would be a burnishing of Nature on a grand scale.

After six very slow miles we halted, for rest and refection, at a thread of water in the section of the Surr which receives the Wady el-Najil. The sides were crowded with sheep and goats, the latter, as in the Syrian lowlands, almost invariably black; and the adjoining rocks had peculiar attractions for hares, hawks, and partridge. In these upland regions water is almost everywhere, and generally it is drinkable; hence the Bedawin naturally prefer them to the coast. An umbrella-shaped thorn-tree, actually growing on a hill-top, and defined by the sky-line, excited our wonder and admiration; for here, as in Pontus—

> "Rara, nec hæc felix, in apertis eminet arvis
> Arbor, et in terra est altera forma maris."

Indeed, throughout our journey this spectacle always retained its charms, aiding Fancy to restore the barrens to what they had been in the prosperous days of yore.

The Wady Surr now began to widen out, and to become more riant, whilst porphyry was almost the only visible rock. After a total of ten "dawdling" miles, marching almost due east, we found our tents pitched in a broad and quasi-circular basin, called *El-Safh* ("the level ground of") *Jebel Malíh* ("Mount

Pleasant"?), which the broad-speaking Bedawin lengthen to *Malayh*. Our camel-men had halted exactly between two waters, and equally distant from both, so as to force upon us the hire of extra animals. We did not grumble, however, as we were anxious to inspect the *Afrán* ("furnaces") said to be found upon the upper heights of the Shárr — of these apocryphal features more hereafter. Fresh difficulties! The Jeráfín-Huwaytát tribe, that owns the country south of the Surr, could not be reached under a whole day of dromedary-riding: in reality they were camped a few furlongs off, but anything to gain £8 per diem for doing nothing! Two Bedawi shepherd-lads promised to act guides next morning, and duly failed to appear, or, more probably, were forbidden to appear. They had also romanced about ruins, fountains, palms, and rushes in the Wady el-Kusayb, the south-eastern influent. At night Ahmed el-'Ukbi, surnamed *Abú Khartúm*, arrived in camp: he had travelled more than once to Tabúk, carrying grain, and though he had failed as a merchant, he retained his reputation as a guide. As regards the furnaces, he also, like Furayj, could speak only from hearsay. Opinions were divided in camp: I saw clearly that a stand was being made to delay us for four or five days; and, despite grumbling, I resolved upon deferring the visit till our return from the interior.

The first march had led us eastward, instead of north-eastward, in order to inspect the Wady Surr. From the seaboard, this line, which drains the northern flank of the Shárr Mountains, appears the directest road into the interior. We shall presently see, however, why the devious northern way of the Wady Sadr has become the main commercial route connecting El-Muwaylah with Tabúk.* During the evening we walked up the Wady Surr, finding, in its precipitous walls, immense veins of serpentine and porphyritic greenstone, but not a speck of gold. The upper part of the *Fiumara* also showed abundant scatters of water-rolled stones, serpentines, and hard felspars, whose dove-coloured surface was streaked with fibrils and at times with regular veins of silvery lustre, as if brought out by friction of the surface. I offered a considerable sum to a Jeráfín Bedawi if he would show the rock *in situ;* he was evidently ignorant of it, but, like others, he referred us to Jebel Malíh.

The whole of the next day (February 20th) was spent in northing. Leaving the noisy braying caravan to march straight on its destination, we set out (6.15 a.m.) up the Wady Guwaymarah, guided by Hasan el-'Ukbí, who declared that he well knew the sites of the ruined settlements El-Khulasah

* This place is noticed in "The Gold-Mines of Midian," Chap. X.

and El-Zibayyib. After walking half an hour we turned eastward into a feeder of the Surr, the Wady el-Khulasah, whose aspect charmed me: this drain of the inner Jedayl block was the *replica* of a *Fiumara* in Somali-land, a broad tree-dotted flat of golden sand, bordered on either side by an emerald avenue of dense Mimosas, forming line under the green-stone hills to the right, and the red-stone heights to the left. The interior, we again remarked, is evidently more rained upon, and therefore less sterile and desolate, than the coast and the sub-maritime regions; and here one can well imagine large towns being built. At last, after walking about an hour and a half (= four miles and a half) towards the Shárr, with our backs turned upon our goal, the rat-faced little intriguer, Hasan, declared that he knew nothing about El-Khulasah, but that Zibayyib lay *there!* pointing to a bright-red cliffy peak, "Abá'l-bárid," on the left bank of the Wady, and to others whose heads were blue enough and low enough to argue considerable distance. He had intended his cousin Gabr to be the real guide, and to take to himself all the credit; but I had sent off the parlous "judge" in another direction.

Mr. Clarke, whose cantering mule had no objection to leave its fellows, rode off with the recreant Hasan, whilst we awaited his return under a tree.

Instead of hugging Abá'l-bárid, behind which a watercourse would have taken him straight to his destination, he struck away from the Wady el-Khulasah. Then crossing on foot, and hauling his animal over, a rough divide, he fell, after six miles instead of two, into the upper course of the Wady Surr, which he reported to be choked with stones, and refusing passage to loaded camels—as will afterwards appear, the reverse is the case. The ruins of El-Zibayyib lie at a junction of three, or rather four, watercourses. The eastern is the Surr, here about five hundred yards broad, forming a bulge in the bed, and then bending abruptly to the south; a short line from the south-west, the Wady Zibayyib, drains the Abá'l-bárid peak; and the northernmost is the Wady el-Safrá,* upon which the old place stands *à cheval.* The western part is the larger and the more ruinous. The thin line, three hundred yards long by thirty broad, never shows more than two tenements deep, owing to the hill that rises behind it: here the only furnace was found. The eastern block measures one hundred yards by forty; both are razed to their basements, resembling the miners' settlement on the Sharmá cliff. They attract attention only by their material,

* I am not certain of this name, as several variants were given to me. For historical notices of the ruined town of Khulasah, see Chap. IV.

red boulders being used instead of the green porphyries of the hills; and the now desolate spot shows no signs of water or of palm-groves.

Mr. Clarke rejoined us after a couple of hours, having lost the dog 'Brahim: under a sudden change of diet it had become too confident of its strength, and thus it is that dogs and men come to grief. We retraced our steps down the Wady el-Khulasah, whose Jebel is the crupper of the little block Umm Jedayl. The lower valley shows a few broken walls, old Arab graves, and other signs of ancient habitation; but I am convinced that we missed the ruins which lay somewhere in the neighbourhood. One Sulaymán, a Bedawi of the Selálimah-Huwaytát tribe, who had been rascalized by residence at El-Muwaylah, was hunted up by the energetic Sayyid; hoping, as usual, that no action would be taken upon mere words, he declared that El-Khulasah stood on the top of a trap-lump. We halted to inspect it, and Lieutenant Amir rode the *Shaytánah*, his vicious little she-mule, up and down steeps fit only for a goat. Again all was in vain.

We then travelled over granite gravel along the western foot-hills of Umm Jedayl, in which a human figure or statue had been reported to me: now, however, it became a *Sarbút*, or "upright stone." Along the flanks of the chief outlier, the Jebel el-Ramzah, distinguished by its red crest and veins,

the slope was one strew of quartz, whole and broken; like that which we had seen to the north, and which we were to see on our southern journey. Despising the "rotten water" offered in two places by the Umm Jedayl, we pitched camp on the fine gravel of the Sayl Wady el-Jimm. Here I heard for the first time, after sighting it for many weeks, that the latter is the name, not of a mountain,* but of a *Sha'b* or "gully" in the Jebel Dibbagh where waters "meet." The Wady Kh'shabriyyah, separating the Umm Jedayl from its northern neighbour, the Dibbagh, looks like a highway; but all declare that it is closed to camels by *Wa'r*, or "stony ground." Of its ruins more when we travel to the Shárr. This day's march of four hours (= ten miles and a half) had been a series of zigzags—north, north-east, west, and again north.

After a cool, pleasant night we set out at 6.30 a.m. (February 21st), across the broad *Sayl*, towards a bay in the mountains bearing north-north-west, the mouth of the Wady Zennárah. Entering the block, we made two short cuts to save great bends in the bed. The first was the Sha'b el-Liwéwi', the *Weiwî* of Wallin (p. 304)—wild riding enough; the path often winding almost due east, when the general

* In "The Gold-Mines of Midian," Chap. V., occur several differences of nomenclature, which may or may not be mistakes. They are corrected in my "Itineraries," part ii. sect. 2.

direction was north-north-east. We saw, for the first time, pure greenish-yellow chlorite outcropping from the granite. The animals were apparently hibernating, and plants were rare; we remarked chiefly the sorrel and the blue thistle, or rather wild artichoke, the Shauk el-Jemel, a thorn loved by camels (*Blepharis edulis*), which recalled to mind the highlands of Syria. The second short-cut, the Wady el-Ga'agah, *alias* Sawáwín, was the worse of the two: the deep drops and narrow gutters in the quartz-veined granite induced even the Shaykhs to dismount before attacking the descents. This is rarely done when ascending, for their beasts climb like Iceland ponies. One of M. Lacaze's most effective *croquis* is that showing *monture* and man disappearing in the black depths of a crevice. Some of the hill-crests were weathered with forms resembling the artificial. At the mid-day halting-ground we saw a stone-mother nursing a rock-child, which might still be utilized in lands where "thaumaturgy" is not yet obsolete.

Our course thence lay eastward up the easy bed of the *Fiumara*, an eastern section of an old friend, the Wady Tiryam; it now takes the well-known name "Wady Sadr," and we shall follow it to its head in the Hismá. The scene is rocky enough for Scotland or Scandinavia, with its huge walls bristling in broken rocks and blocks, its blue slides, and its

polished sheets of dry watercourse which, from afar, flash in the sun like living cataracts. On the northern or right bank rises the mighty Harb, whose dome, single when seen from the west, here becomes a Tridactylon, splitting into three several heads. Facing it, the northernmost end of the Dibbagh range forms a truncated tower, conspicuous far out at sea: having no name, it was called by us *Burj Jebel Dibbagh.* A little further to the east it will prove to be the monstrous pommel of a dwarf saddleback, everywhere a favourite shape with the granite outcrop.

MM. Clarke and Lacaze, who had never before seen anything higher that the hillocks of the Isle of Wight or the *Buttes de Montmartre,* were hot upon ascending the almost perpendicular sides of the *Burj,* relying upon the parallel and horizontal fissures in the face, which were at least ten to twenty feet apart. These dark marks, probably stained by oxide of iron, reminded me of those which wrinkle the granitic peaks about Rio de Janeiro, and which have been mistaken for "hieroglyphs."

The valley-sole is parti-coloured; the sands of the deeper line to the right are tinctured a pale and sickly green by the degradation of the porphyritic traps, here towering in the largest masses yet seen; while the gravel of the left bank is warm, and lively

with red grit and syenitic granite. Looking down the long and gently waving line, we feel still connected with the civilized world by the blue and purple screen of Sinai forming the splendid background. Everything around us appears deserted; the Ma'ázah are up country, and the Beni 'Ukbah have temporarily quitted these grazing-grounds for the Surr of El-Muwaylah. We camped for the night, after a total march of eleven miles, at the *Sayl el-Nagwah*, a short Nullah at the foot of a granite block similarly named; and a gap supplied us with tolerable rain-water.

On the next day (February 22nd) we left the "Nagwah" at seven instead of six a.m., and passed to the right a granitic outcrop in the Wady bed, a reduced edition of the *Burj*. After an hour's slow walking we were led by a Bedawi lad, Hasan bin Husayn, to a rock-spur projected northwards from the left side and separating two adjacent *Sayls* or "torrent-beds," mere bays in the bank of mountains. A cut road runs to the top of the granite tongue, which faces the westernmost or down-stream outbreaks of the huge porphyritic masses on the other side of the Wady Sadr. The ridge itself is strewed with spalled stone, quartz broken from the veins that seam the granite, and with slag as usual admirably worked. Not a trace of human habitation appears, nor is there any tradition of a settle-

ment having existed here; consequently we concluded that this was another *atelier* of wandering workmen. Below the rock-tongue we found for the first time oxydulated iron and copper, either free or engaged in trap and basaltic dykes: the former metal, also attached in layers to dark-red vermeilled jasper, here appears streaked with white quartz.

Resuming our ride, we dismounted, after four miles, at the half-way *Mahattah* ("halting-place"): it is a *rond-point* in the Wady Sadr, marked from afar by a tall blue pyramid, the Jebel el-Ga'lah (Já'lah). We spent some time examining this interesting bulge. Here the *Jibál el-Tihámah* end, and the eastern parallel range, the *Jibál el-Shafah*, begins. The former belong to the Huwaytát and to Egypt; the latter, partly to the Ma'ázah and to Syria. The geographical frontier is well marked by two large watercourses disposed upon a meridian, and both feeding the main drain, the Sadr-Tiryam. To the north the Wady Sawádah divides the granitic Harb from the porphyritic Jebel Sawádah; while the southern Wady Aylán separates the Dibbagh from the Jebel Aylán, a tall form distinctly visible from the Upper Shárr. The rest of our eastward march will now be through the Shafah *massif*. It resembles on a lower scale the Tihámah Gháts; but it wholly wants their variety,

their beauty, and their grandeur. The granites, which before pierced the porphyritic traps in all directions, now appear only at intervals; and this, I am told, is the case throughout the northern, as we found it to be in the southern, prolongation of the "Lip"-range. At the same time there is no distinct geographical separation between the two parallels; and both appear, not as if parted by neutral ground, but rather as topographical continuations of each other.

While breaking our fast and resting the mules, a few shots ringing ahead caused general excitement: we were now on the edge of the enemy's country. Presently three of the Ma'ázah came in and explained, with their barking voices, that their people had been practising at the *Níshán* ("target"); which meant "We have powder in abundance." One of them, at once dubbed *El-Nasnás* ("the Satyr") from his exceeding monstrous ugliness—a baboon's muzzle with a scatter of beard—kindly volunteered to guide us, with the intention of losing the way. The dialogue that took place was something as follows:—

What are your names?

A. *Na'akal wa nashrab!* Our names are "We eat and We drink!"

Where do we find water to-day?

Furayj ejaculates, "The water of the Rikáb!"

A. No, by Allah! The Arabs will never allow

you to drink! You should be killed for carrying off in *Dumús* ("skins") the sand of the Wady Jahd (alluding to Lieutenant Amir's trip).

We did not pay much heed to these evil signs. Ahmed el-'Ukbí had been sent forward to obtain a free pass from the chiefs, and we hardly expected that the outlying thieves would be daring enough to attack us.

Resuming our way, in a cold wind and a warm sun, up the upper Wady Sadr, we threaded the various bends to the south and south-east, with a general south-south-eastern direction. The normal dark-green traps and burnished red porphyries and grits were sparsely clad with the *Shauhat* and the *Yasár* trees, resembling the *Salvadora* and the *Tamarix*. The country began to show a few donkeys and large flocks of sheep and goats; the muttons have a fine "tog," and sell for three dollars and a half. The women in charge, whose complexions appeared notably lighter than those of the seaboard, barked like the men. They were much puzzled by a curious bleating which came from the mules; and hurriedly counted their kids, suspecting that one had been purloined, whilst they had some trouble to prevent the whole flock following us. All roared with laughter when they found that Mr. Clarke was the performer.

We crossed two short cuts over long bends in

the Wady; and at the second found a pot-hole of rain-water by no means fragrant, except to nostrils that love impure ammonia. It has a grand name, *Muwah* (for Miyáh) *el-Rikáb* ("the Waters of the Caravan"); and we made free with it, despite the morning's threats. We again camped in the valley at an altitude of 2200 feet (aner. 27·80); and, though the thermometer showed 66° F. at five p.m., fires inside and outside the mess-tent were required. A wester or sea-breeze, deflected by the ravines to a norther, was blowing; and in these regions, as in the sub-frigid zones of Europe, wind makes all the difference of temperature. During the evening we were visited by the Ma'ázah Bedawin of a neighbouring encampment: they began to notice stolen camels and to wrangle over past times —another bad sign.

Setting out on a splendidly lucent morning (6.45 a.m., February 23rd), when the towering heads of Harb and Dibbagh looked only a few furlongs distant, we committed the imprudence of preceding, as usual, the escort. Our men had become so timid, starting at the sight of every wretched Bedawi, that they made one long for a "rash act." After walking about a mile and a half, we passed some black tents on the left bank, where the Sadr enters a narrow rocky gorge; and suddenly about a dozen varlets were seen scampering over the walls, manning the

Pass, and with lighted matches threatening to fire. Then loud rang the war-song—

" Hill el-Zawáib, hilla-há ;
W'ábdi Nuhúdak kulla-há ! "

" Loose thy top-locks with a loosing (like a lion's mane);
And advance thy breast, all of it (*opponite pectora* without shrinking)."

Other varieties of the slogan are :—

" O man of small mouth (*un misérable*) !
If we fail, who shall win? "

And—

" By thy eyes (I swear), O she-camel, if we go (to the attack) and gird (the sword),
We will make it a day of sorrow to them, and avert from ourselves every ill."

We dismounted, looked to our weapons, and began to parley. The ragged ruffians, some of them mere boys, and these always the readiest to blow the matches of guns longer than themselves, began with high pretensions. They declared that they would be satisfied with nothing less than plundering us ; they flouted Shaykh Furayj, and they insulted the Sayyid, threatening to take away his sword.

Presently the escort and the Arab camel-men were seen coming up at the double. The Ma'ázah at once became abject; kissed our heads and declared " there was some mistake." I had already remarked, whilst the matchlock-men were swarming up the Wady-sides, that the women and children

remained in camp, and the sheep and goats were not driven off. This convinced me that nothing serious had been intended: probably the demonstration was ordered from head-quarters in order to strike us with a wholesome awe.

The fellows gently reproached us with travelling through their country without engaging (and paying) *Ghafír*—"guides and protectors." So far, as owners of the soil, they were "in their right;" and manning a pass is here the popular way of levying transit dues. On this occasion the number of our Remingtons sufficed to punish their insolence by putting the men to flight, and by carrying off their camels and flocks; but such a step would have stopped the journey, and what would not the "Aborigines Protection Society" have said and done? I therefore hired one of the varlets, and both parties went their ways rejoicing that the peace had not been broken.

The valley, winding through the red and green hills, was dull and warm till the cool morning easter, which usually set about eight a.m., began to blow. The effect of increasing altitude showed itself in the vegetation. We now saw for the first time the Kidád (*Astragalus*), with horrid thorns and a flower resembling from afar the gooseberry: it is common on the Hismá and in the South Country. The Kahlá (*Echium*), a bugloss, a borage-like plant, with viscous leaves and flowers of two colours,—

the young light-pink and the old dark-blue,—everywhere beautified the sands, and reminded me of the Istrian hills, where it is plentiful as in the Nile Valley. The Jarad-thorn was not in bloom; and the same was the case with the hyacinth (*Dipcadi erythræum*), so abundant in the Hismá, which some of us mistook for a "wild onion." The Zayti (*Lavandula*) had just donned its pretty azure bloom. There were *Reseda*, wild indigo, *Tribulus* (*terrestris*), the blue *Aristida*, the pale *Stipa*, and the *Bromus* grass, red and yellow. The Ratam (*spartium*), with delicate white and pink blossoms, was a reminiscence of Tenerife and its glorious crater; whilst a little higher up, the amene Cytisus, flowering with gold, carried our thoughts back to the far past.

Presently the great *Fiumara* opened upon a large basin denoting the *Ras* ("head") *Wady Sadr*: native travellers consider this their second stage from El-Muwaylah. In front the Jibál Sadr extended far to the right and left, a slight depression showing the *Khuraytah*, or "Pass," which we were to ascend on the morrow. Buttressing the left bank of the broad watercourse was the dwarf hill of which we had been told so many tales. By day its red sands gleam and glisten like burnished copper; during the night fire flashes from the summit: in truth, its sole peculiarity is that of being yellow amongst the gloomy heights around it; whilst the

Wady el-Safrá, higher up to the left, discharges from its Jebel a torrent of quartz and syenite, gravel and sand. Abú Khartúm, the author of the romance, was among the party: he only smiled when complimented upon the power of his imagination.

This was a day of excitement: even the mules kept their ears pricked up. After a short nine miles we had camped below the Jebel Kibár, and we had remounted our animals to ascend a neighbouring hill commanding a bird's-eye view of the Hismá plain. There was evidently much excitement amongst the Bedawi shepherds around us; and presently Ahmed el-'Ukbí, our messenger, appeared in sight, officially heading the five chiefs of the Ma'ázah, who were followed by a tail of some thirty clansmen. Only two rode horses, wretched garrons stolen from the Ruwalá, the great branch of the Anezah, which holds the eastern regions; the rest rode fine sturdy and long-coated camels, which looked Syrian rather than Midianite.* We returned hurriedly to make arrangements for the reception: our Shaykhs could not, without derogating, go forth to meet the strangers; but the latter were saluted with due ceremony by the bugler and the escort, drawn up in line before the mess-tent.

After the usual half-hour's delay, the "palaver,"

* To this breed belonged the beast which carried me on the first Expedition.

to speak *Africanicè*, "came up," and M. Lacaze had a good opportunity of privily sketching the scene. The Shaykh, Mohammed bin 'Atíyyah, who boasts (falsely) that he commands more than half the two thousand males composing the tribe, is a tall, sinewy man of about fifty, straight-featured, full-bearded, and gruff-voiced: his official style of speaking from the throat, a kind of vaccine low, imitated in camp for many a day, never failed to cause merriment. His costume rose to the height of Desert-fashion, described when pourtraying Shaykh Khizr the 'Imráni; his manners were those of a gentleman below the Pass, and above it he became an unmitigated ruffian, who merited his *soubriquet* El-Kalb ("the Hound"). On one side sat his son Sálim, a large, beardless lad, who had begun work by presenting us with a sheep—Giorgi (cook) said it cost us £40. On the other was his eldest brother and *alter ego:* the wrinkled Sagr (Sakr) has been a resident at Cairo, and still boasts that he received the "tribute" of a horse from the Viceroy, whom he affects to treat as an equal or rather an inferior. The others were old Sagr's ill-visaged son Ali, and, lastly, a cunning-eyed villain, 'Abayd bin Sálim, the rightful heir to the chieftainship. which, however, he had been unable to keep. All the Shaykhs were dressed in brand-new garments and glaring glossy *Kúfíyahs* ("head-kerchiefs"); they trade chiefly with

Mezáríb in the Haurán; and, during the annual passage to and fro of the Damascus caravan, they await it at Tabúk, and threaten to cut off the road unless liberally propitiated with presents of raiment and rations. The *Murátibah* (*honorarium*) contributed by El-Shám would be about one hundred dollars in ready money to the headman, diminishing with degree to one dollar per annum: this would not include "free gifts" by pilgrims. The Ma'ázah are under Syria, that is, under no rule at all; and they are supposed to be tributary to, when in reality they demand tribute from, the Porte. In fact, nothing can be more pronounced than the contrast of the Bedawin who are subject to Egypt, and those supposed to be governed by the wretched Ottoman.

During the palaver all outside was sweet as honey, to use the Arab phrase, and bitter as gall inside. The Ma'ázah, many of whom now saw Europeans for the first time, eyed the *barnetá* (hat) curiously, with a certain facial movement which meant, "This is the first time we have let Christian dogs into our land!" They were minute in observing the escort, and not a little astonished to find that all were negroes—in the old day Egyptian soldiers, under the great Mohammed Ali Pasha and his stepson, Ibrahim Pasha, had made themselves a terror to the Wild Man. "What had now become of them?" was the mental question. When asked

whence they had procured the two horses, they answered curtly, *Min Rabbiná*—"From our Lord," thus signifying stolen goods; and, like mediæval knights, they took a pride in avowing that not one of their number could read or write. Finally a tent was assigned to them; food was ordered, and they promised us escort to their dens on the morrow.

During the raw and gusty night the mercury sank to 38° F., the aneroid (26·91) showing about three thousand feet above sea-level; and blazing fires kept up within and without the tents, hardly sufficed for comfort. On the morning of February 24th

"Over the wold the wind blew cold;"

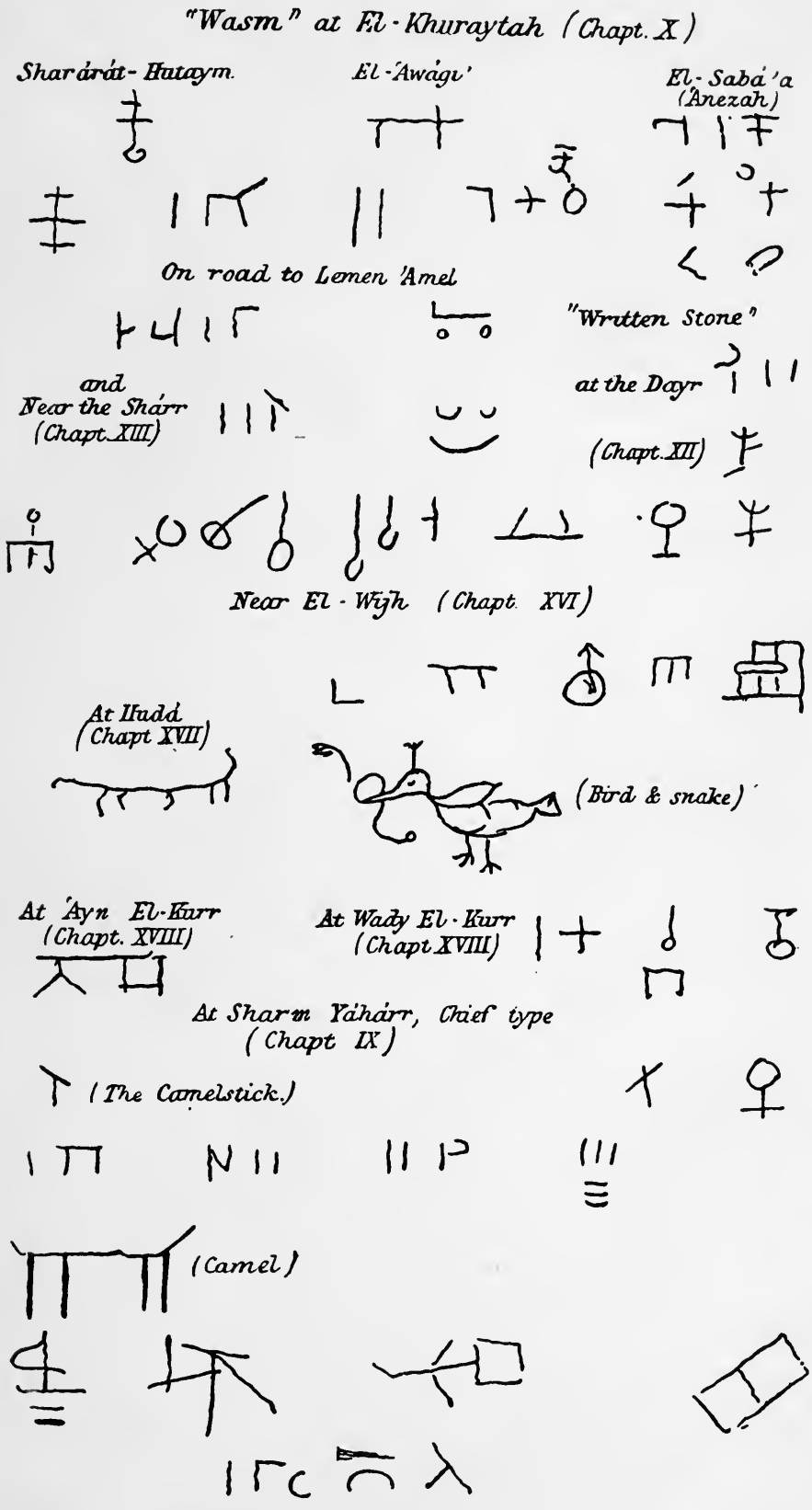
and the Egyptian officers all donned their gloves. The early hours were spent in a last struggle with our Shaykhs, who now felt themselves and their camels hopelessly entering the lion's lair. The sole available pretext for delay was that their animals could never carry the boxes and tents up the Pass; but, though very ugly reports prevailed concerning the reception of Ahmed el-'Ukbí, and the observations that had been made last night, not a word was suffered to reach my ears until our retreat had been resolved upon. Such concealment would have been inexcusable in a European; in the East it is the rule.

At 7.15 a.m. we struck the camp at Jebel Kibár,

and moved due eastward towards the Pass. This north-eastern Khuraytah (*Col*) is termed the *Khuraytat el-Hismá* or *el-Ĵils*, after a hillock on the plateau-summit, to distinguish it from the similar feature to the south-west: the latter is known as the *Khuraytat el-Zibá* or *el-Tăhămă*, the local pronunciation of Tihámah. About two miles of rough and broken ground lead to the foot of the ladder. The zigzags then follow the line of a mountain torrent, the natural Pass, crossing its bed from left to right and from right again to left: the path is the rudest of *corniches*, worn by the feet of man and beast; and showing some ugly abrupt turns. The absolute height of the ascent is about 450 feet (aner. 26·70—26·25) and the length half a mile. The ground, composed mostly of irregular rock-steps, has little difficulty for horses and mules; but camels laden with boards (the mess-table) and long tent-poles must have had a queer time—I should almost expect after this to see an oyster walking up stairs. Of course, they took their leisure, feeling each stone before they trusted it, but they all arrived without the shadow of an accident; and the same was the case during the two subsequent descents.

We halted on the *Sath el-Nakb* ("the Pass-top") to expect the caravan, and to prospect the surrounding novelties. Heaps and piles of dark trap dotted the summit like old graves; many of the

WASM, OR ARAB TRIBE MARKS.



stones were inscribed with tribal marks, and not a few were capped with snowy lumps of quartz detached from their veins in the porphyry. This custom, which appears universal throughout Midian, has many interpretations. According to some it denotes the terminus of a successful raid; others make it show where a dispute was settled without bloodshed; whilst as a rule it is an expression of gratitude: the Bedawi erects it in honour of the man who protected or who did a service to him, saying at the same time, *Abyaz 'alayk yá Fulán*—"White (or happy) be it to thee!" naming the person. Amongst these votive stones we picked up copper-stained quartz like that of 'Aynúnah, fine specimens of iron, and the dove-coloured serpentine, with silvery threads, so plentiful in the Wady Surr. The *Wasm* in most cases showed some form of a cross, which is held to be a potent charm by the Sinaitic Bedawin; and on two detached water-rolled pebbles were distinctly inscribed IH and VI, which looked exceedingly like Europe. Apparently the custom is dying out: the modern Midianites have forgotten the art and mystery of tribal signs (*Wusúm*). In many places the people cannot distinguish between inscriptions and "Bill Snooks his mark," and they can interpret very few of the latter.

Looking westward through the inverted arch formed by the two hill-staples of the Khuraytah, and

down the long valley which had given us passage, the eye distinguishes a dozen distances whose several planes are marked by all the shades of colour that the most varied vegetation can show. There are black-browns, chocolate-browns, and light umber-browns; bright-reds and dull-reds; grass-greens and cypress-greens; neutral tints and French greys contrasting with the rosy pinks, the azures, the purples, and the golden yellows with which distance paints the horizon. From a few feet above the *Col*-floor appear the eastern faces of the giants of the coast-range; and our altitude, some 3800 feet, gave us to a certain extent a measure of their grand proportions.

We now stand upon the westernmost edge of the great central Arabian plateau, known as El-Nejd ("the Highlands"), opposed to El-Tihámah, the low-land regions. In Africa we should call it the "true" subtending the "false" coast; delightful Dahome compared with leprous Lagos. This upland, running parallel with the "Lip"-range and with the maritime Ghâts, is the far-famed Hismá. It probably represents a remnant of the old terrace which, like the Secondary gypseous formation, has been torn to pieces by the volcanic region to the east, and by the plutonic upheavals to the west. The length may be 170 miles; the northern limit is either close to or a little south of Fort Ma'án; and we shall see

its southern terminus sharply defined on a parallel with the central Shárr, not including "El-Jaww." * An inaccessible fortress to the south, it is approached on the south-west by difficult passes, easily defended against man and beast. Further north, however, the Wadys 'Afál near El-Sharaf, El-Hakl (Hagul), and El-Yitm at El-'Akabah, are easy lines without *'Wa'r* ("stony ground") or *Nakb* ("ravines").

The Hismá material is a loose modern sandstone, showing every hue between blood-red, rose-pink, and dead, dull white: again and again fragments had been pointed out to us near the coast, in ruined buildings and in the remains of handmills and rub-stones. Possibly the true coal-measures may underlie it, especially if the rocks east of Petra be, as some travellers state, a region of the Old, not the New Red. According to my informants, the Hismá has no hills of quartz, a rock which appears everywhere except here; nor should I expect the region to be metalliferous.

We ascended the Jebel el-Khuraytah, a trap hillock some 120 feet high, the southern jamb of the Khuraytah gate: the summit, where stands a ruined *Burj* measuring fourteen mètres in diameter, gives a striking and suggestive view. After hard dry living on grisly mountain and unlovely Wady, this

* For a short notice of this region, hitherto unvisited by Europeans, see Chap. XVIII.

fine open plain, slightly concave in the centre, was a delightful change of diet to the eye—the first enjoyable sensation of the kind, since we had gazed lovingly upon the broad bosom of the Wady el-'Arabah. The general appearance is that of Eastern Syria, especially the Haurán: at the present season all is a sheet of pinkish red, which in later March will turn to lively green. On this parallel the diameter does not exceed a day's march, but we see it broadening to the north. Looking in that direction over the gloomy-metalled porphyritic slopes upon which we stand, the glance extends to a manner of sea-horizon; while the several planes below it are dotted with hills and hill-ranges, white, red, and black, all dwarfed by distance to the size of thimbles and pincushions. The guides especially pointed out the ridge El-Mukaykam, a red block upon red sands, and a far-famed rendezvous for raid and *razzia*. Nearer, the dark lumps of El-Khayráni rise from a similar surface; nearer still lie the two white dots, El-Rakhamatayn; and nearest is the ruddy ridge Jebel and Jils el-Rawiyán, containing, they say, ruins and inscriptions of which Wallin did not even hear.

The eastern versant of the Hismá is marked by long chaplets of tree and shrub, disposed along the selvage of the watercourses; and the latter are pitted with wells sunk after the fashion of the

Bedawin. In this rhumb the horizon is bounded by El-Harrah, the volcanic region whose black porous lavas and honey-combed basalts, often charged with white zeolite, are still brought down even to the coast to serve as mortars and handmills. The profile is a long straight and regular line, as if formed under water, capped here and there by a tiny head like the Syrian *Kulayb Haurán:* its peculiar dorsum makes it distinguishable from afar, and we could easily trace it from the upper heights of the Shárr. It is evidently a section of the mighty plutonic outburst which has done so much to change the aspect of the parallel Midian seaboard. Wallin's account of it (p. 307) is confined to the place where he crossed the lava-flood; and he rendered *El-Harrah*, which in Arabic always applies to a burnt region, by "red-coloured sandstone."

The Bedawin far more reasonably declare that this Harrah is not a mere patch as it appears in Wallin's map, a narrow oblong not exceeding sixty miles (north lat. 27°—28°), disposed diagonally from north-west to south-east. According to them, it is a region at least as large as the Hismá; and it extends southwards not only to the parallel of El-Medínah, but to the neighbourhood of Yambú'. The upper region has two great divisions: the Harrat-Hismá or *the* Harrah *par excellence*, which belongs to the Ma'ázah, and which extends south-

wards through El-Sulaysilah as far as the Jaww. The latter region, a tract of yellow sand, dotted with ruddy hills, apparently a prolongation of the Hismá, separates it from the *Harrat el-'Awayraz,* in which the Jebel el-Muharrak lies.* This line of volcanism is continued south by the *Harrat el-Mushrif* (P.N. of a man); by the *Harrat Sutúh Jaydá;* and, finally, by the *Harrat el-Buhayri:* the latter shows close behind the shore at El-Haurá, in nearly the same latitude as El-Medínah, where we shall presently sight it. There is great interest and a general importance in this large coast-subtending eruptive range, whose eastern counterslope demands long and careful study.

Sweeping the glance round to south, we see the southern of the two Jilsayn, tall mounds of horizontal strata, with ironstone in harder lines and finial blocks. This is the Jils el-Dáim, so distinguished from the northern Jils el-Rawiyán. The lower edge of the Hismá swells up in red and quoin-like masses, the Jibál el-Záwiyah, and then falls suddenly, with a succession of great breaks, into the sub-maritime levels. During our next ten days' travel we shall be almost in continuous sight of its southern ramparts and buttresses. Far over the precipices lie the low yellow sands of the Rahabah, *alias* the Wady Dámah;

* For a note on the "Burnt Mountain," so well known at El-Wijh, see Chap. XVIII.

and behind it rises the sky-blue mountain block, which takes a name from the ruins of Shaghab and Shuwák.

We breakfasted upon the Khuraytah crest; and Mr. Clarke set out to shoot the fine red-legged "Greek" partridges (*caccabis*) that haunt the hill-tops, whilst the rest of us marched with the caravan to the nearest camping-ground. About a mile from the *Col*, and lying to the west of the Jils el-Rawiyán, it is supplied with excellent drinking-water by the *Miyáh el-Ǧedayd*, lying nine hundred to a thousand mètres to the south-east. On the other hand, fuel, here a necessary of life, was wanting; nor could the camels find forage. Thus we were camped upon the western edge of the Hismá. The Ma'ázah Shaykhs, who vainly urged us forwards, showed a suspicious disappointment at our not reaching their quarters on the far side, where, they said, a camel was awaiting to be slaughtered for our reception.

Meanwhile, we were enjoying the reverse of hospitality. The Bedawin evidently now held that all which was ours had become theirs. Their excessive greed made them imprudent. Not satisfied with "eating us up," with a coffee-pot ever on the fire, with demanding endless tobacco, and with making their two garrons devour more barley than our eight mules, they began to debate, aloud as usual, how much ready money they should demand.

This was at last settled at four hundred dollars; and the talk was reported to me by the Básh-Buzúk Husayn, whom they had compelled to cook for them. At the same time unpleasant discussions were beginning: "This man stole my camel!" "That man killed my father," already took the form of threats; in fact, I almost repented having brought the Huwaytát and their camels into the trap. Still they all respected Furayj, as might be seen by their rising and making room for him whenever he approached the fire.

At last an evil rumour arose that the Ma'ázah had determined to supply us with transport, and had sent messengers in all directions to collect the animals. This step looked uncommonly like a gathering of war-men. I was sorely disappointed, for more reasons than one. The state of affairs rendered a distant march to the east highly unadvisable. The principal object of this journey had been to investigate the inland depth of the metalliferous deposits; in fact, their extent from west to east. Their north-south length would be easily ascertained, but the width would still remain unknown. The "Land of Midian," through which we have been travelling, has evidently been worked, and in places well worked; thus the only chance of finding a virgin California would be in the unknown tracts lying to the east of the "Harrahs." Too bad to

be thwarted in such a project by the exorbitant demands of a handful of thieves!

The disappointment was aggravated by other considerations. From all that I had heard, the Hismá is a region full of archæological interest. Already we were almost in sight of the ruins of Ruáfá, lying to the north between the two white dots El-Rakhamatayn. Further eastward, and north of the pilgrim-station Zát-Hajj, are the remains of Karáyyá, still unvisited by Europeans. Finally, I had been shown, when too late to inspect the place, a fragment of a Nabathæan inscription, finely cut in soft white sandstone:* it had been barbarously broken, and two other pieces were *en route*. The stone is said to be ten feet long (?), all covered with "writings," from which annalistic information might be expected: it lies, or is said to lie, about two hours' ride north of our camp, and beyond the Jils el-Rawiyán famed for *Hawáwít*. At first I thought of having it cut to portable size; but second thoughts determined me to leave it for another visit or for some more fortunate visitor. Lastly, we were informed, a few weeks afterwards, that the Ma'ázah Shaykhs had carried it off to their tents—I fear piecemeal.

* It was afterwards exhibited at the Hippodrome, Cairo, and was carefully photographed by M. Lacaze. Others said that it came from the east of our camp, near the Jils el-Dáim.

It was not pleasant to beat a retreat; but, under the circumstances, what else could be done? No one was to be relied upon but the Europeans, and not all even of *them*. The black escort, emancipated slaves, would have run away at the first shot; except only Acting-Corporal Khayr. And when I told the officers assembled at mess that we should march back early next morning, the general joy showed how little they relished the prospect of an advance. Then came out in mass the details—many doubtless apocryphal—which should have been reported to me, and which had carefully been kept secret. The Ma'ázah, when our messenger first notified our visit, had declared that they would have no Nazarenes in their mountains; that they did not care a *fico* for Egypt. Why had not "Effendíná" written to them? they were his equals, not his subjects! It was then debated whether they should not raise a force of dromedary-men to fall upon us. Some of them proposed to summon to their aid the rival chief, Ibn Hermás; but the majority thought it would be better to reserve for themselves the hundred dollars per diem, of which they proposed to fleece us.

Of course, everything around us was intrigue; the *Máyat taht el-Tibn* ("water under the straw") of the Arab saying. Furayj, it is true, looked serene, and privately offered me to fight the affair out; but he was alone in the idea. The Sayyid was

tranquil, as usual; Hasan the 'Ukbi wore an unpleasant appearance of satisfaction, as if he had been offered a share in the plunder of the Huwaytát; and 'Alayán, a brave man on his own ground, could hardly conceal his dejection. I might, it is evident, have seized Shaykh Mohammed, placed a pistol to his ear, and carried him off a prisoner; but such *grands moyens* must be reserved for great occasions. The worst symptoms in camp were that the Ma'ázah at once knew the whole of my project; while the Egyptian officers were ever going to their tents, and one stayed talking with them till near midnight.

February 25th was a day of humiliation. I aroused the camp at 4.30 a.m., and at once gave orders to strike the tents and load. The command was obeyed in double quick time; but not before Shaykh Mohammed had visited us to propose a march to his home in the east. He was not comfortable; probably his reinforcements had still to arrive: his face was calm, as the Eastern's generally is; but his feet trembled, and his toes twitched. I drily told him of our changed plans, and he left us in high dudgeon. The tragi-comedy which followed may be divided into six acts:—

1. The Ma'ázah mount their horses and camels: I walk up to them, and expostulate about so abrupt a departure without even drinking a friendly cup of coffee.

2. They dismount, and squat in council round the fire, sending on three dromedary-riders to crown a hill commanding the pass. The "burning question" is now whether armed clansmen are or are not lurking behind the heights.

3. Shaykh Mohammed comes forward, and demands blackmail to the extent of two hundred dollars. I offer one hundred dollars.

4. Our hosts break off the debate in a towering rage; refuse coffee, and declare that the caravan of "Effendíná" (the Viceroy) shall not be loaded. Mohammed's feet twitch more violently as the camels are made to kneel.

5. The caravan shows too much emotion. I pay the two hundred dollars into the chief's hands. He at once demands his *Sharaf* ("honour") in the shape of a *Kiswah*, or handsome dress, and, that failing, an additional twenty-five dollars for each of the five headmen. I promise that a robe shall be sent from El-Muwaylah.*

6. The caravan sets out for the Pass, when the three dromedary-riders open with the war-cry: it is stopped with much apparatus by the Shaykhs, who affect to look upon it as dangerous.

* * * * * *

We now marched without delay upon the *Col*, which was reached at 8.15 a.m.; Mohammed bin

* It was duly committed to the charge of our Sayyid.

'Atíyyah having meanwhile disappeared. We descended the Khuraytat el-Jils in twenty-six minutes, and dismissed the remainder of our Ma'ázah escort at the foot. I vainly offered them safeguard to El-Muwaylah, which they have not visited for the last dozen years; all refused absolutely to pass their own frontiers.

Au revoir Mohammed ibn 'Atíyyah and company!

Having broken our fast and sent forward the caravan, we at once began to descend the southern Pass, the Khuraytat el-Zibá. Here the watershed of the Wady Surr heads; and merchants object to travel by its shorter line, because their camels must ascend two ladders of rocks, instead of one at the top of the Wady Sadr. The *Col* was much longer and but little less troublesome than its northern neighbour; the formation was the same, and forty-five minutes placed us in a gully, that presently widened to a big valley, the Wady Dahal or El-Khuraytah. We reached it at 12.30 p.m., and laid down the distance from the summit of the northern *Col* at about five miles and a quarter. The air felt tepid, the sun waxed hot; drinking-water was found on the left of the bed, and a hole in the sole represented a spring, which the people say is perennial: we were dismounting to quench our thirst at the latter, when Juno plunged into it,

and stood quietly eyeing us with an air of intense satisfaction.

We spent that night at a place lower down the Wady Dahal, known as the Jayb el-Khuraytah ("Collar of the *Col*"). The term "Jayb" is locally applied to two places only; the other being the Jayb el-Sa'lúwwah, which we shall presently visit. A larger feature than a Wady, it reminds us of a Norfolk "broad," but it is of course waterless. Guards were placed around the camp; and a wholesome dread of the Ma'ázah kept them wide awake. The only evil which resulted was that none dared to lead our mules to water; and the poor animals were hardly rideable on the next day.

Of the Hismá in its present state, we may say as of Ushant, *Qui voit Ouessant, voit la mort.* Nothing can be done towards working the mines of Midian until this den of thieves is cleared out. It is an asylum for every murderer and bandit who can make his way there—a centre of turbulence which spreads trouble all around it. Under the sham rule of miserable Shám (Syria), with its Turkish Wális, men like the late Ráshid Pasha, matters can only wax worse. Subject to Egypt, the people will learn discipline and cease to torment the land.

Happily for their neighbours there will be no difficulty in reducing the Ma'ázah. They are surrounded by enemies, and they have lately been

obliged to pay "brother-tax" to the Ruwalá as a defence against being plundered: the tribute consists of one piece of hair-cloth about twenty cubits long. On the north, as far as El-Ma'án, they meet the hostile Beni Sakr (Jawázi), under the Shaykh Mohammed ibn Jázi; southwards the Baliyy, commanded by Shaykh 'Afnán, are on terms of "blood" with them; eastward stand the 'Anezah and the warlike Sharárát-Hutaym, who ever covet their two thousand camels: westward lie in wait their hereditary foes, the Huwaytát. Shaykh Furayj, the tactician, has long ago proposed a general onslaught of his tribesmen by a simultaneous movement up the Wadys Surr, Sadr, Urnub, and 'Afál: they seemed to have some inkling of his intentions, as they hastened to conclude with him a five months' *'Atwah* or "truce." Finally, a small disciplined force, marching down the Damascus-Medínah pilgrimage-road to the east, and co-operating with the Huwaytát on the west, would place this vermin between two fires.

The tale of my disappointment may conclude with an ethnological notice of those who caused it.

The Ma'ázah is a Syro-Egypto-Bedawi clan, originally Arab, or rather Syrian, but migratory, as are all Arabs. It now extends high up the valley of the Nile, and it is still found in the Wady Musá (of Suez) and on the Za'faránah block. Even in Egypt it is turbulent and dangerous: the men are

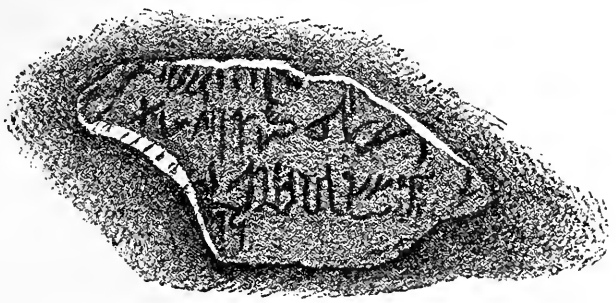
professional robbers; and their treachery is uncontrolled by the Bedawi law of honour—they will eat bread and salt with the traveller whom they intend to murder. For many years it was unsafe to visit the camps within sight of Suez, until a compulsory residence at head-quarters taught the Shaykhs manners. The habitat in Arabia stretches from the Wady Musá of Petra, where they are kinsmen of the Tiyáhah, the Bedawin of the Tíh-desert; and through Ma'án as far as the Birkat el-Mu'azzamah, south of Tabúk. Finally, they occupy the greater part of the Hismá and the northern Harrah.

According to Mohammed el-Kalb, these bandits own the bluest of blue blood. Their forefather was one Wáíl, who left by his descendants two great tribes. The first and the eldest took a name from their *Ma'áz* ("he-goats"); while the junior called themselves after the *Annáz* ("she-goats"): from the latter sprung the great Anezah family, which occupies the largest and the choicest provinces of the Arabian peninsula. Meanwhile genealogists ignore the Ma'ázah.

Wallin would divide the tribe into two, the Ma'ázah and the "Beni 'Atiyá:" of the latter in Midian I could hear nothing except that they represent the kinsmen of the Shaykh's family. We find "Benoo Ateeyah" in maps like that of Crichton's (1834), where the Ma'ázah are laid down further

south; and northwards the Beni 'Atiyyah are a powerful clan who push their *razzias* as far as the frontiers of Moab. My informants declare that the numbers of fighting men in the Midianite division of the race may be two thousand (two hundred?), and that they are separated only by allegiance to two rival Shaykhs. The greater half, under Ibn Hermás, is distributed into five clans, of whom the first, 'Orbán Khumaysah, contain two septs. Under

NABATHÆAN INSCRIPTION FROM EL-HISMÁ.



Mohammed ibn 'Atíyyah (*El-Kalb*) they number also five divisions. Amongst them are the Subút or Beni Sabt, "Sons of the Sabbath," that is, Saturday; whom Wallin suspects to be of Jewish origin, relying, it would appear, principally upon their name. The ringing of the large bell suspended to the middle pole of the tents at sunset, "to hail the return of the camels and the mystic hour of descending night," is an old custom still maintained, because it confers a *Barakat* ("blessing") upon the flocks and herds. Certainly there is nothing of the Bedawi in this

practice, and it is distinctly contrary to the tradition of El-Islam; yet many such survivals hold their ground amongst the highly conservative Wild Men, and they must be looked upon only as local and tribal peculiarities.

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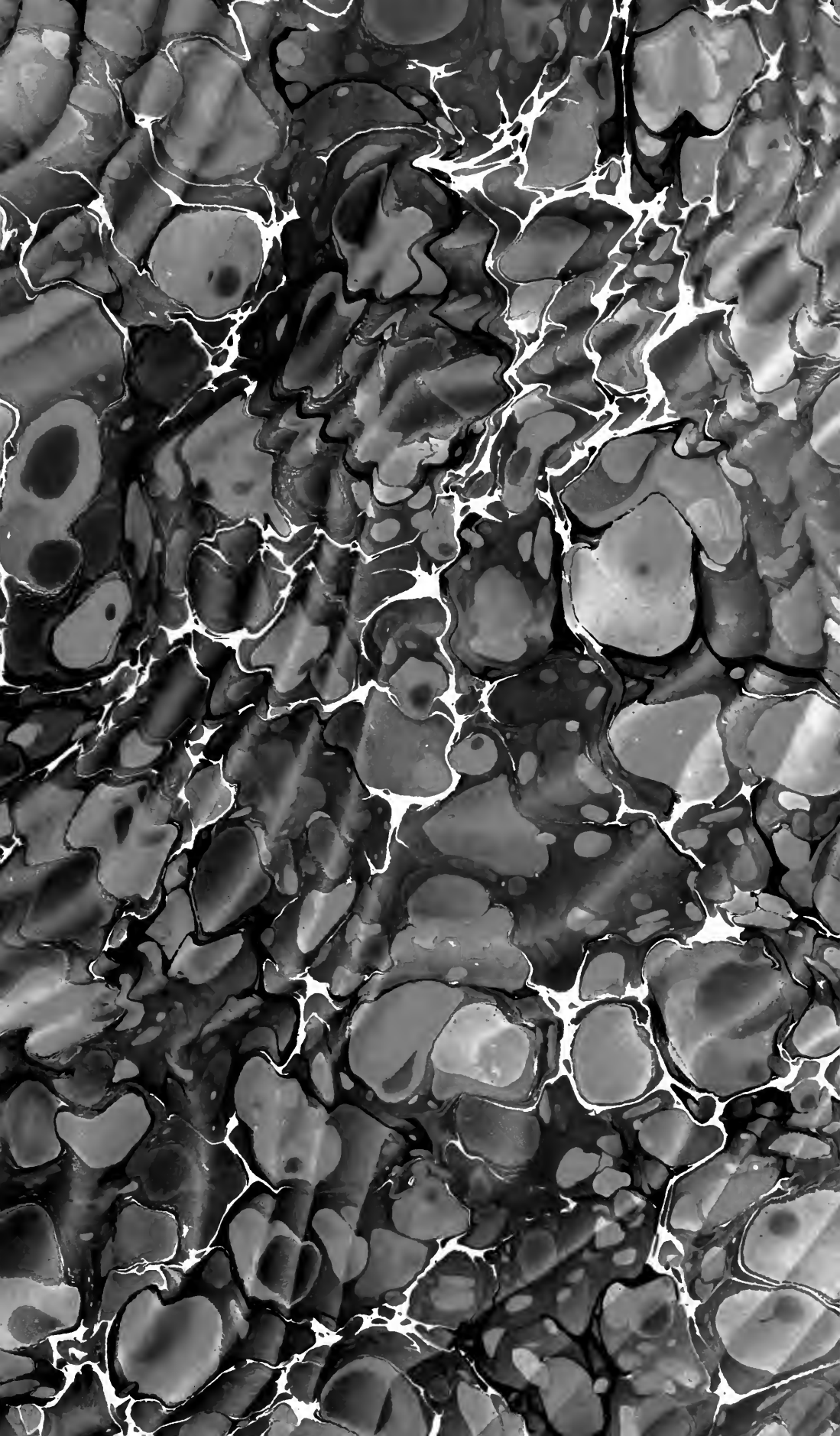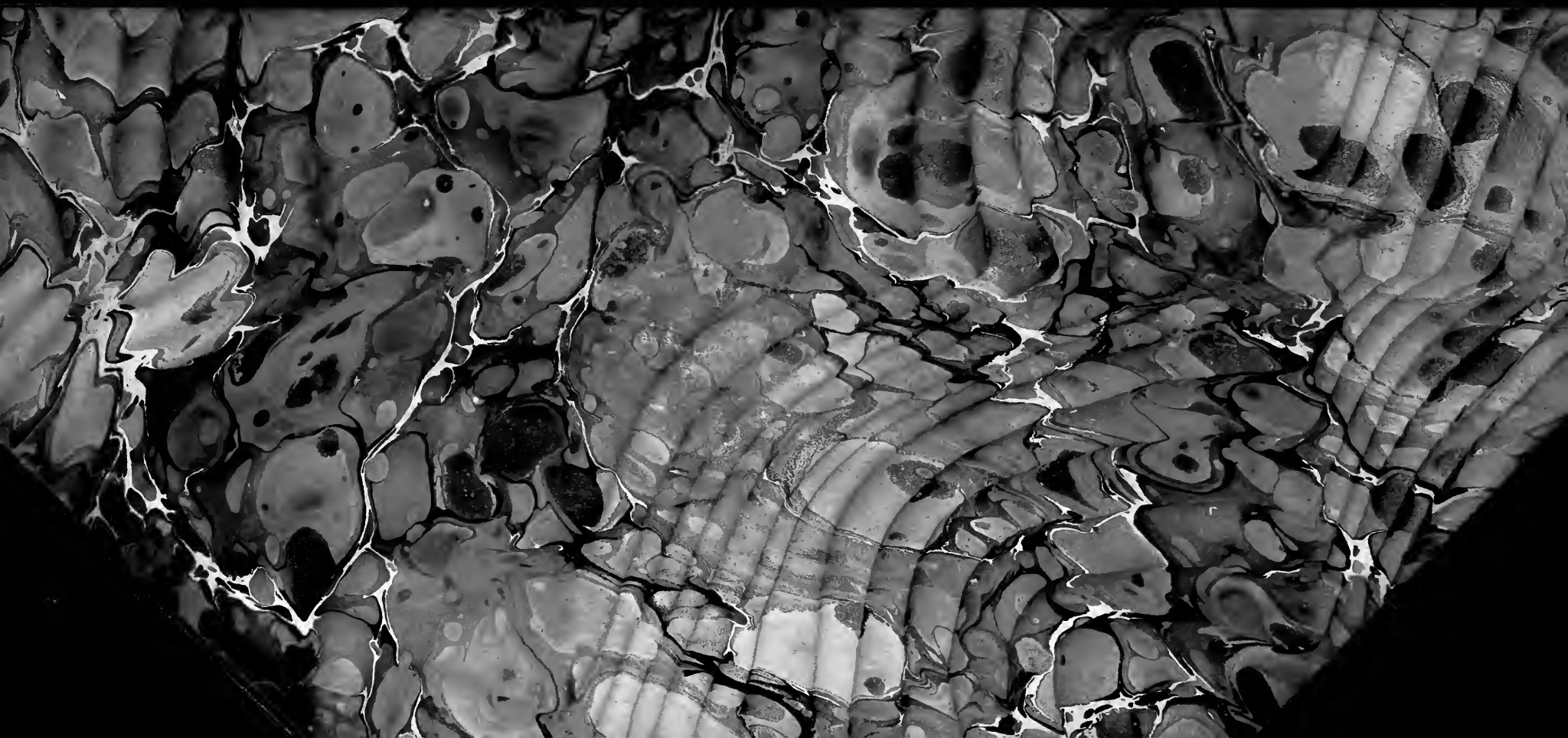
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